Commercial Flight Systems Group
Business and Commuter Aviation Systems Division
Honeywell Inc.
Box 29000
Phoenix, Arizona 85038

SPZ-8000 Digital Automatic Flight Control System

Gulfstream IV

System Maintenance Manual

Volume III — Fault Isolation, Interconnects, Schematics, and Maintenance Practices

22-14-00

TITLE PAGE T-1

REVISED 15 APR 1993
1 JUNE 1987

PRINTED IN U.S.A.

PUB. NO. A15-1146-38

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Revision Number	Revision Date	Insertion Date	By	Revision Number	Revision Date	Insertion Date	By
01	Feb 1/88	Mar 1/88	HI				
02	Mar 1/89	Apr 15/89	HI				
03	Oct 1/89	Nov 15/89	HI				
04	Mar 15/91	Apr 15/91	HI				
05	Aug 15/91	Nov 1/91	HI				
06	Apr 1/93	Jul 1/93	HI				

LIST OF EFFECTIVE PAGES

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553		0
554		0
555	■	6
556	■	6
557		1
558		0
559	■	6
560	■	6
561	■	6
562	■	6
563	■	6
564		4
565		1
566	■	6
567	■	6
568	■	6
569	■	6
570		0
571		0
572		1
573		1
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585		0
586		4
587		4
588		4
589		1
590		1
591		0
592		4
593		4
594		0
595		0
596		4
597		4
598		4
598.1		0
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598.24		1
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598.27		0
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598.31		4
598.32		0
598.33		0
598.34		4
598.35		1
598.36		1
598.37		0
598.38	■	6
598.38.1	■	6
598.38.2	■	6
598.38.3	■	6
598.38.4	■	6
598.38.5	■	6
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598.38.11	■	6
598.38.12	■	6
598.38.13	■	6
598.38.14	■	6
598.38.15/598.38.16	■	6
598.39		4
598.40		4
598.41	■	6
598.42	■	6
598.43		0
598.44		0
598.45		0
598.46		0
598.47		0
598.48		0
598.49	■	6
598.50		0
598.51		0
598.52		0
598.53		0
598.54		1
598.55		4
598.56	■	6
598.57		0
598.58	■	6
598.59	■	6
598.60	■	6
598.61	■	6
598.62		4
598.63		1
598.64	■	6
598.65	■	6
598.66	■	6
598.67	■	6
598.68		4
598.69		1
598.70	■	6
598.71	■	6

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598.88	0	598.128	4
598.89	0	598.129	4
598.90	4	598.130	4
598.91	4	598.131	4
598.92	4	598.132	4
598.93	4	598.133	4
598.94	0	598.134	4
598.95	0	598.135	4
598.96	4	598.136	4
598.97	4	598.137	1
598.98	4	598.138	4
598.99	0	598.139	0
598.100	■ 6	598.140	0
598.101	4	598.141	0
598.102	4	598.142	0
598.103	4	598.143	0
598.104	■ 6	598.144	0
598.105	4	598.145	0
598.106	■ 6	598.146	0
598.107	■ 6	598.147	1
598.108	4	598.148	1
598.108.1	■ 6	598.149	0
598.108.2	■ 6	598.150	1
598.108.3	■ 6	598.151	0
598.108.4	■ 6	598.152	■ 6
598.108.5	■ 6	598.153	0
598.108.6	■ 6	598.154	0
598.108.7	■ 6	598.155	■ 6
598.108.8	■ 6	598.156	■ 6
598.108.9	■ 6	598.156.1/598.156.2	1
598.108.10	■ 6	598.157	0
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598.110	4	598.159	0

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598.160		0
598.161		0
598.162	■	6
598.163	■	6
598.164	■	6
598.164.1/598.164.2	■	6
598.165		1
598.166	■	6
598.167	■	6
598.168		4
598.169		0
598.170		4
598.171		1
598.172	■	6
598.173		4
598.174		0
598.175		0
598.176		4
598.177		4
598.178		4
598.179		0
598.180		0
598.181		0
598.182		0
598.183		4
598.184		4
598.184.1/598.184.2		4
598.185		4
598.186		0
598.186.1/598.186.2	■	6
598.187		4
598.188		4
598.188.1/598.188.2		1
598.189		1
598.190		4
598.190.1/598.190.2		4
598.191		4
598.192		4
598.192.1/598.192.2		4
598.193		0
598.194		4
598.195		4
598.196		0
598.197		0
598.198		0
598.199		0
598.200		0
598.201		0
598.202		0
598.203		0
598.204		0
598.205		0
598.206		0
598.207		0
598.208		0
598.209		0
598.210		4
598.211		0
598.212		1
598.213		0
598.214		0
598.214.1	■	6
598.214.2	■	6
598.214.3/598.214.4	■	6
598.215	■	6
598.216	■	6
598.217		4
598.218		4
598.219		4
598.220		4
598.221		4
598.222		4
598.223		4
598.224		4
598.225		4
598.226		4
598.227		4
598.228		4
598.229		4
598.230		4
598.231		4
598.232		4
598.233		4
598.234		4
598.234.1		4
598.234.2		4
598.235		4
598.236		4
598.236.1/598.236.2		4
598.237	■	6
598.238	■	6
598.238.1/598.238.2	■	6
598.239		4
598.240		4
598.241		4
598.242		4
598.242.1		4
598.242.2	■	6
598.242.3	■	6
598.242.4	■	6
598.242.5/598.242.6	■	6

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598.244		4
598.245		4
598.246		4
598.247		4
598.248		4
598.248.1/598.248.2	▪	6
598.249		4
598.250	▪	6
598.251		4
598.252		4
598.253		4
598.254		4
598.255		4
598.256		1
598.257		1
598.258		4
598.259		1
598.260		1
598.261		1
598.262		1
598.263		4
598.264		4
598.265		4
598.266		4
598.267		4
598.268		4
598.269		4
598.270		4
598.271		4
598.272	▪	6
598.273		4
598.274	▪	6
598.275		4
598.276		4
598.277		4
598.278	▪	6
598.279		4
598.280		4
598.281		4
598.282		1
598.283		1
598.284		4
598.285		4
598.286	▪	6
598.287/598.288		4
F 598.289/598.290		4
F 598.291/598.292		4
598.293		4
598.294		4
598.295	▪	6
598.296	▪	6
598.297	▪	6
598.298	▪	6
598.299	▪	6
598.300	▪	6
598.301	▪	6
598.300	▪	6
598.301	▪	6
598.302	▪	6
598.303	▪	6
598.304	▪	6
598.305	▪	6
598.306	▪	6
598.307	▪	6
598.308	▪	6
598.309	▪	6
598.310	▪	6
598.310.1/598.310.2	▪	6
598.311		4
598.312		4
598.313		4
598.314		4
598.315		4
598.316		4
598.317		4
598.318		4
598.319		4
598.320		4
598.321		4
598.322		4
598.323		4
598.324		4
598.325		4
598.326		4
598.327		4
598.328		4
598.329		4
598.330		4
598.331		4
598.332		4
598.333		4
598.334		4
598.335		4
598.336		4
598.337/598.338		4
598.339	▪	6
598.340	▪	6
598.341	▪	6
598.342	▪	6
598.343/598.344	▪	6

SECTION 5
FAULT ISOLATION

1. General

This section provides faulty component isolation information as an aid in troubleshooting the System should any failure occur during GROUND CHECK.

2. Procedure

The Ground Maintenance Test Procedure (Table 301) contains a troubleshooting procedure as part of each test. The troubleshooting procedures list the error messages and describe what action to take for each error message. Also, Table 301 contains a Ground Test Summary, paragraph 4.5.2.11. The Ground Test Summary is a review of all failures which occurred while running the ground maintenance test. This review allows the operator to run the entire test and then review the failures before troubleshooting the system. This feature allows rapid identification of subsystem failures which caused multiple failure annunciations throughout the ground maintenance test.

Mode flow diagrams, Section 3, and interconnect information, Section 6, can be used as aids in isolating the faulty components.

Additional information to aid in troubleshooting each subsystem is contained in the following paragraphs:

Subsystem	Paragraph
LASEREF® II Inertial Reference System (IRS)	3.0
AZ-810 Air Data System	4.0
AA-300 Radio Altimeter System	5.0
EDZ-884 Electronic Display System (EDS)	6.0
DFZ-820 Flight Guidance System	7.0
PRIMUS® 870 Weather Radar System	8.0
FMZ-800 Flight Management System (FMS)	9.0
Engine Pressure Ratio Transmitter	10.0

3. LASEREF® II Inertial Reference System (IRS)

A. Self-Test

Pressing either the TEST pushbutton on the mode select unit (MSU) or the TEST pushbutton on the IRU itself will cause the IRS to output test values. Pressing the TEST pushbutton on the MSU causes all three IRUs to enter test. The test mode ARINC 429 output values are shown in Table 401. The test mode ASCB output values are shown in Table 402. The test mode outputs for the MSU and the IRU are shown in Table 403. The ISDU display of IRU test mode outputs is shown in Table 404. Table 405 shows the abbreviations for test modes.

B. System Navigation Performance Determination and Removal Criteria

Figure 401 provides removal criteria for monitoring of IRS NAV performance. To determine system navigation performance, accurate present position latitude/longitude and navigation time must be known. The latitude/longitude data used to determine navigation accuracy can be obtained several ways, such as known ramp coordinates or a known point on the airfield. With the aircraft located at such a known position, an accurate measurement of system radial position error or drift can be obtained. The IRS position data can be obtained from the FMS, ISDU or LASERTRAK™. The known aircraft position can then be compared to IRS position to compute the position error. The FMS will perform this error calculation automatically but it must be cautioned that the IRS position is being compared to the FMS position. Since the FMS position is utilizing other sensors (including all the IRSs) its position is susceptible to the errors introduced by these sensors. This error may be eliminated as follows:

- When the IRS position is to be checked, the FMS position should be manually updated to the accurately known position via the position sensor page. After the position update, the IRS status page should be selected and total IRS miles from the FMS position should be checked.

C. Reject Criteria

(1) IF the IRU radial position error falls within the grayband area of Figure 401 (the Reject-2 Consecutive Flts region), the IRU should be checked again, after the next flight, for a second exceedance before removing. By next flight it is meant that the IRU is powered down and restarted with a full alignment prior to NAV mode being entered.

(2) If the IRU radial position error falls above the grayband area of Figure 401 (The Reject-1 Flt region), the IRU should be removed and does not need to be checked twice. However, caution should be exercised before removing an IRU after only one flight to ensure that the system error is not resulting from accidental operator error, e.g., incorrect initial position entry.

3. D. Techniques to Improve Navigation Performance

The following items are a general summary of operational techniques that may be used to improve system navigation performance.

(1) Use exact aircraft position for initialization rather than local VOR or airport coordinates.

(2) Minimize aircraft motion during alignment (also downmode align).

(3) Perform initial system alignment using OFF-to-NAV, and then (if necessary) initiate a downmode alignment just prior to taxi/takeoff. If the system has not accumulated any substantial groundspeed or present position errors, then the downmode alignment is not needed at this time.

(4) If possible, perform system alignment procedures with aircraft headed in the general direction of proposed flight.

(5) Use the total time the system is in the navigation mode (NAV TIME) when calculating position error rather than only flight time. For the most accurate determination of system navigation performance, the navigation time should be used for this calculation.

Signal	Octal Label	Phase 1	Phase 1 Test Value	Phase 2	Phase 2 Test Value	Phase 3	Phase 3 Test Value
Time-to-NAV ready	007	FT	9.0	FT	9.0	FT	9.0
Present position latitude (inertial)	010	FT	22 30.0 (N)	FT	22 30.0 (N)	FT	22 30.0 (N)
Present position longitude (inertial)	011	FT	22 30.0 (E)	FT	22 30.0 (E)	FT	22 30.0 (E)
Groundspeed	012	FT	200.0	FT	200.0	FT	200.0
TK angle-true	013	FT	90.0	FT	90.0	FT	90.0
Magnetic heading	014	FT	30.0	FT	30.0	FT	30.0
Windspeed	015	FT	100.0	FT	100.0	FT	100.0
Wind direction (true)	016	FT	30.0	FT	30.0	FT	30.0
True heading	044	FT	30.0	FT	30.0	FT	30.0
IRS discretes	270	FT	*	FT	*	FT	*
Present position latitude	310	FT	22.5 (N)	FW	22.5 (N)	FT	22.5 (N)
Present position longitude	311	FT	22.5 (E)	FW	22.5 (E)	FT	22.5 (E)
Groundspeed	312	FT	200.0	FW	200.0	FT	200.0
Track angle (true)	313	FT	90.0	FW	90.0	FT	90.0
True heading	314	FT	30.0	FW	30.0	FT	30.0
Windspeed	315	FT	100.0	FW	100.0	FT	100.0
Wind direction (true)	316	FT	30.0	FW	30.0	FT	30.0
Track angle (magnetic)	317	FT	90.0	FW	90.0	FT	90.0
Magnetic heading	320	FT	30.0	FW	30.0	FT	30.0
Drift angle	321	FT	-10.0	FW	-10.0	FT	-10.0

Test Mode ARINC 429 Output Values
Table 401

Signal	Octal Label	Phase 1	Phase 1 Test Value	Phase 2	Phase 2 Test Value	Phase 3	Phase 3 Test Value
Flightpath angle	322	FT	-5.0	FW	-5.0	FT	-5.0
Flightpath accel	323	FT	0.02	FW	0.02	FT	0.02
Pitch angle	324	FT	15.0 (up)	FW	15.0 (up)	FT	15.0 (up)
Roll angle	325	FT	5.0 (R)	FW	5.0 (R)	FT	5.0 (R)
Body pitch rate	326	FT	10.0	FW	10.0	FT	10.0
Body roll rate	327	FT	10.0	FW	10.0	FT	10.0
Body yaw rate	330	FT	10.0	FW	10.0	FT	10.0
Body long accel	331	FT	0.02	FW	0.02	FT	0.02
Body lat accel	332	FT	0.1	FW	0.1	FT	0.1
Body normal accel	333	FT	0.1	FW	0.1	FT	0.1
Platform heading	334	FT	22.5	FW	22.5	FT	22.5
Track angle rate	335	FT	4.0	FW	4.0	FT	4.0
Inertial pitch rate	336	FT	10.0	FW	10.0	FT	10.0
Inertial roll rate	337	FT	10.0	FW	10.0	FT	10.0
IRS maintenance	350	FT	*	FT	*	FT	*
Time-to-NAV RDY	351	FT	9.0	FT	9.0	FT	9.0
Cycle counter	354	(+)	*	(+)	*	(+)	*
Potential vertical speed	360	FT	-600	FW	-600	FT	-600
Inertial altitude	361	FT	10000.0	FW	10000.0	FT	10000.0
Along tk horiz accel	362	FT	0.02	FW	0.02	FT	0.02
Cross track accel	363	FT	0.02	FW	0.02	FT	0.02
Vertical accel	364	FT	0.1	FW	0.1	FT	0.1

Test Mode ARINC 429 Output Values
Table 401 (cont)

Signal	Octal Label	Phase 1	Phase 1 Test Value	Phase 2	Phase 2 Test Value	Phase 3	Phase 3 Test Value
Inertial vertical speed	365	FT	-600.0	FW	-600.0	FT	-600.0
N-S velocity	366	FT	200.0	FW	200.0	FT	200.0
E-W velocity	367	FT	200.0	FW	200.0	FT	200.0
Body normal accel	370	FT	0.1	FW	0.1	FT	0.1
Equipment ID	371	FT	*	FT	*	FT	*

* Current data. Not affected by test mode.

Test Mode ARINC 429 Output Values
Table 401 (cont)

WSP*	Signal	Word Length (LSB = 0)**	Test Value (Phase 1, 2, and 3)
1	IRS Control	16	10000000***
2	Sine Pitch Angle	16	0.25883 (15°)
3	Cosine Pitch Angle	16	0.966 (15°)
4	Sine Roll Angle	16	0.5 (30°)
5	Cosine Roll Angle	16	0.86608 (30°)
6	True Heading (Flag)	16	30.0° 0
7	Inertial Altitude	16	10,000 ft
8	Pitch Angle (Flag)	16	15° 0
9	Roll Angle (Flag)	16	5.0° 0
10	Magnetic Heading (Flag)	16	30° 0
11	Inertial Vert. Speed (Flag)	16	-600 ft/min 0
12	Pitch Rate (Flag)	16	10.0 deg/s 0
13	Roll Rate (Flag)	16	10.0 deg/s 0
14	Yaw Rate (Flag)	16	10.0 deg/s 0
15	Long. Acceleration (Flag)	16	0.02 g 0
16	Lateral Acceleration (Flag)	16	0.1 g 0
17	Normal Acceleration (Flag)	16	0.1 g 0
18	Groundspeed (Flag)	16	200 kt 0

Test Mode ASCB Output Values
Table 402

WSP*	Signal	Word Length (LSB = 0)**	Test Value (Phase 1, 2, and 3)
19	Track Angle (True) (Flag)	16	90° 0
20	Flightpath Angle (Flag)	16	-5.0° 0
21#	Vertical Accel (Flag)	16	0.1 g 0
22#	Along Track Accel (Flag)	16	0.2 g 0
23#	Cross Track Accel (Flag)	16	0.02 g 0
24#	Track Angle Rate (Flag)	16	4.0 deg/s 0
25#	Flightpath Accel (Flag)	16	0.02 g 0
26# 27#	PPOS Lat (Flag)	24	22.5N 0
27# 28#	PPOS Long (Flag)	24	22.5E 0
29#	E - W Velocity (Flag)	16	200 kt 0
30#	N - S Velocity (Flag)	16	200 kt 0

\# On extended data field only.
* WSP = Word sequence position.
** Validity bit (LSB or Flag) is set to 0, or invalid, in test mode.
*** Least significant 8 bits are variable data specifying the IRU address where 02 = left, 03 = right, and 04 = center.

Test Mode ASCB Output Values
Table 402 (cont)

Annunciator Signal	Phase 1 (First 8S Period)	Phase 2 (Second 8S Period)	Phase 3 (Third 8S Period)
MSU Annunciators			
ALIGN	On	Original state	Original state
FAULT	On	Original state	Original state
NAV RDY (Six-annunciator MSU only)	On	Original state	Original state
NO AIR (Six-annunciator MSU only)	On	Original state	Original state
ON BATT	On	Original state	Original state
BATT FAIL	On	Original state	Original state
IRU Annunciator			
Fault ball	Original state	Original state	Original state

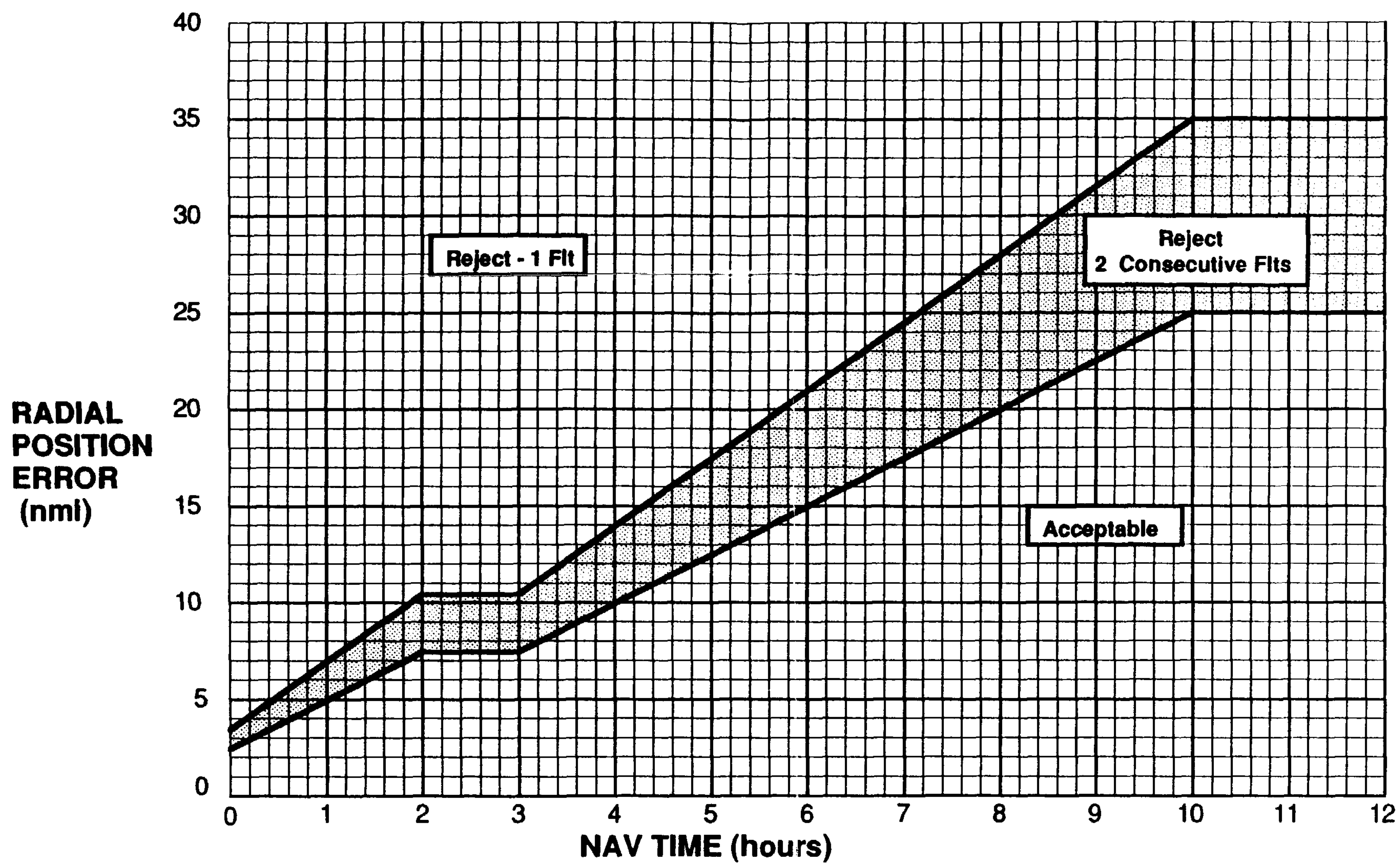
Test Mode Outputs
Table 403

Parameter	Test Value (All Three Phases)
Track	90°
Groundspeed	200 kt
Latitude	N 22° 30.0′
Longitude	E 22° 30.0′
Wind direction	30°
Windspeed	100 kt
True heading	30°
Time-to-NAV	Current data

ISDU Display of IRU Test Mode Outputs
Table 404

Abbreviation	Definition	Abbreviation	Definition
DS	Do not send	NCD	No computed data
FL	Light flashing	O	Original value
FR	From	OFF	Light off
FT	Functional test	ON	Light on
FW	Failure warning	T	True
I	Invalid	TV	Test value
L	Lamp	V	Valid
M	Magnetic	Z	Null output
N	Normal operation		

Abbreviations for Test Modes
Table 405



Reject Criteria:

1) If the IRU radial position error falls within the "Grayband" area of the chart (the "Reject-2 Consecutive Flts" region), the IRU should be checked again after the next flight for a second exceedence before removing.

2) If the IRU radial position error falls above the "Grayband" area of the chart (the "Reject-1 Flt region), the IRU should be removed and does not need to be checked twice. However, caution should be exercised before removing an IRU after only one flight to ensure that the system error is not resulting from accidental operator error.
e.g.: Incorrect initial position entry

Radial Position Error (nml): Distance between accurate known aircraft position and the displayed IRS position as taken from the FMS, ISDU or LASERTRAK™. If the FMS "IRS Status Page" is used to obtain total position error, the FMS position should be manually updated to the accurate known position prior to reading error.

Nav Time: The total time that the system has been in the navigate mode until the time when the system position is taken to compute position error, This includes ground time if in navigate mode.

IRU Performance Removal Criteria
Figure 401

4. AZ-810 Air Data System

A. DADC Functions

(1) The DADC will output test values when the self-test select pin, J1A-52 is grounded. The DADC self-test expected output values (analog outputs) are shown in Table 406. The DADC ARINC 429 self-test expected output values are shown in Table 407. The DADC ASCB self-test expected output values are shown in Table 408.

(2) The DADC cabin pressure ratio output is shown in Figure 402.

(3) The FAA V_{MO} function for the Gulfstream IV is shown in Figure 403.

(4) The CAA V_{MO} function for the Gulfstream IV is shown in Figure 404.

(5) The low-speed static source error correction (SSEC) is shown in Figure 405 and the high-speed SSEC is shown in Figure 406. Technical Newsletter, Pub. No. 23-1980-04, Revision 7, contains the SSEC information to test the DADC for compliance with FAR 91.171 and FAR 43.

B. Altitude Preselect Operation

The desired altitude is selected in this mode by slewing via the APS knob on the guidance panel to the desired value. No further action is required. To arm altitude preselect, either IAS, V/S, MACH, or pitch hold is selected as a mode to fly to the selected altitude. When outside the altitude bracket trip point, the APS ARM annunciator is illuminated along with the selected vertical mode. When reaching the bracket altitude, the system automatically switches to the APS CAP mode and the active pitch mode is cancelled. At bracket, a command is generated to asymptotically capture the selected altitude. When the altitude is reached, the APS CAP is automatically cancelled and switched to the ALT HOLD mode. If the air data computer is not valid, the altitude preselect mode cannot be selected.

Figure 407 illustrates the operation of the altitude alerting system. As the aircraft approaches the selected altitude, a single momentary (0.5 to 1.0 second) ground is provided at 1000 feet for an audio alerting device, and the amber alert light on the altimeter is illuminated. The alert light remains illuminated until the aircraft is within 250 feet of the selected altitude where it is extinguished. No warning signals are generated within 250 feet of the selected altitude. If the aircraft should subsequently deviate from the selected altitude, a single momentary ground is provided at 250 feet deviation and the alert light is illuminated. The light remains illuminated until a deviation of 1000 feet is recorded, then it is extinguished.

Parameter	Self-Test Value
Altitude Switch	Set
V_{MO} Warning	Off
Air Data Valids	Invalid when self-test input is grounded

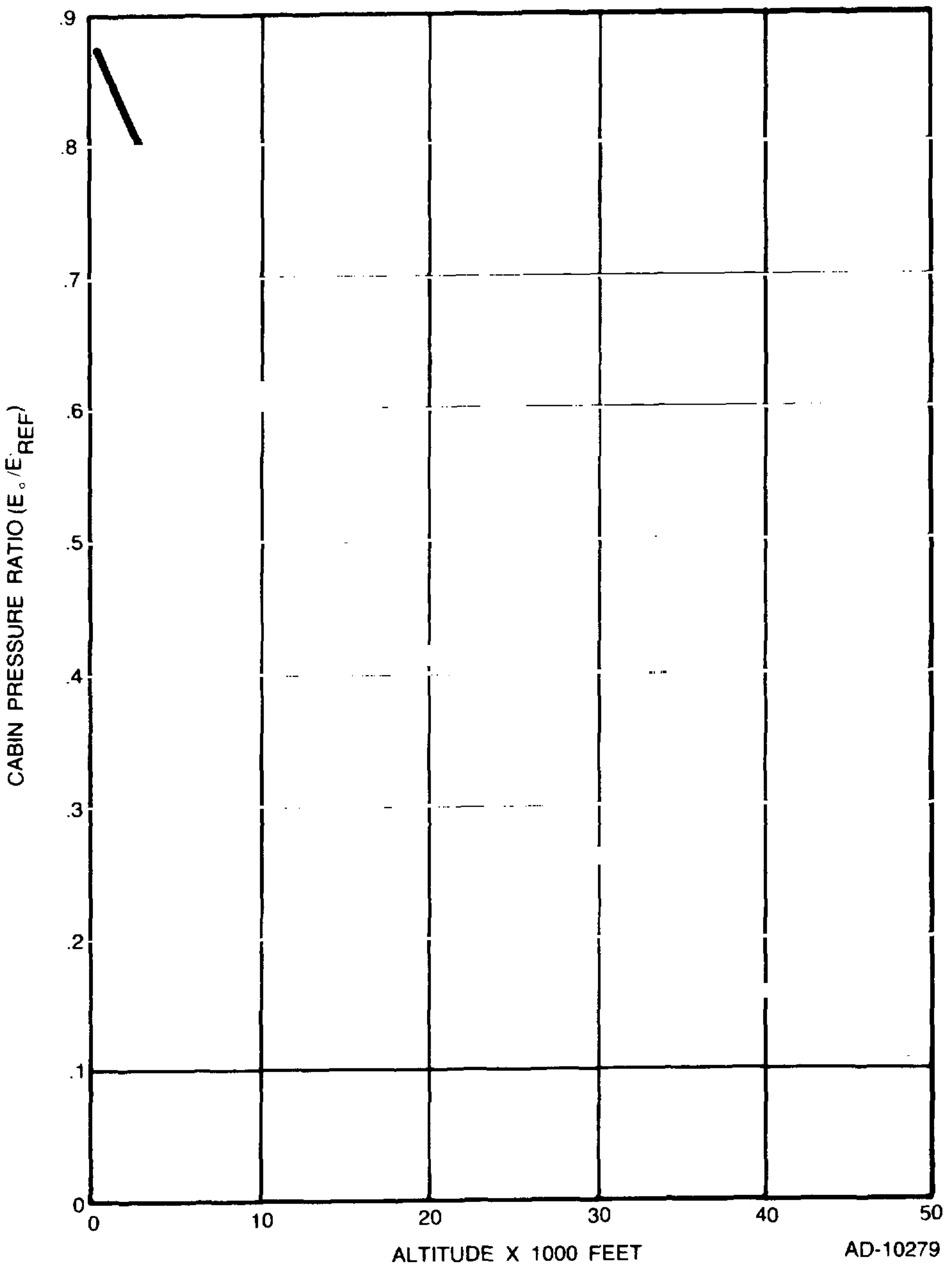
DADC Self-Test Analog Outputs
Table 406

Parameter	Self-Test Value	Units
Pressure Alt	4000	feet
Baro Corr Alt	1000	feet
Alt Rate	5000	feet
CAS	350	knots
TAS	466	knots
Mach No.	0.790	Mach
TAT	-16	°C
SAT	-45	°C
V_{MO}	300	knots
Baro Corr (mb)	1013.3	millibar
Baro Corr (inHg)	29.921	inHg
Total Pressure	1083.6	millibar
Overspeed Warning	Off	---
Normal AOA	0.5	ratio
Selected Altitude	12,000	feet

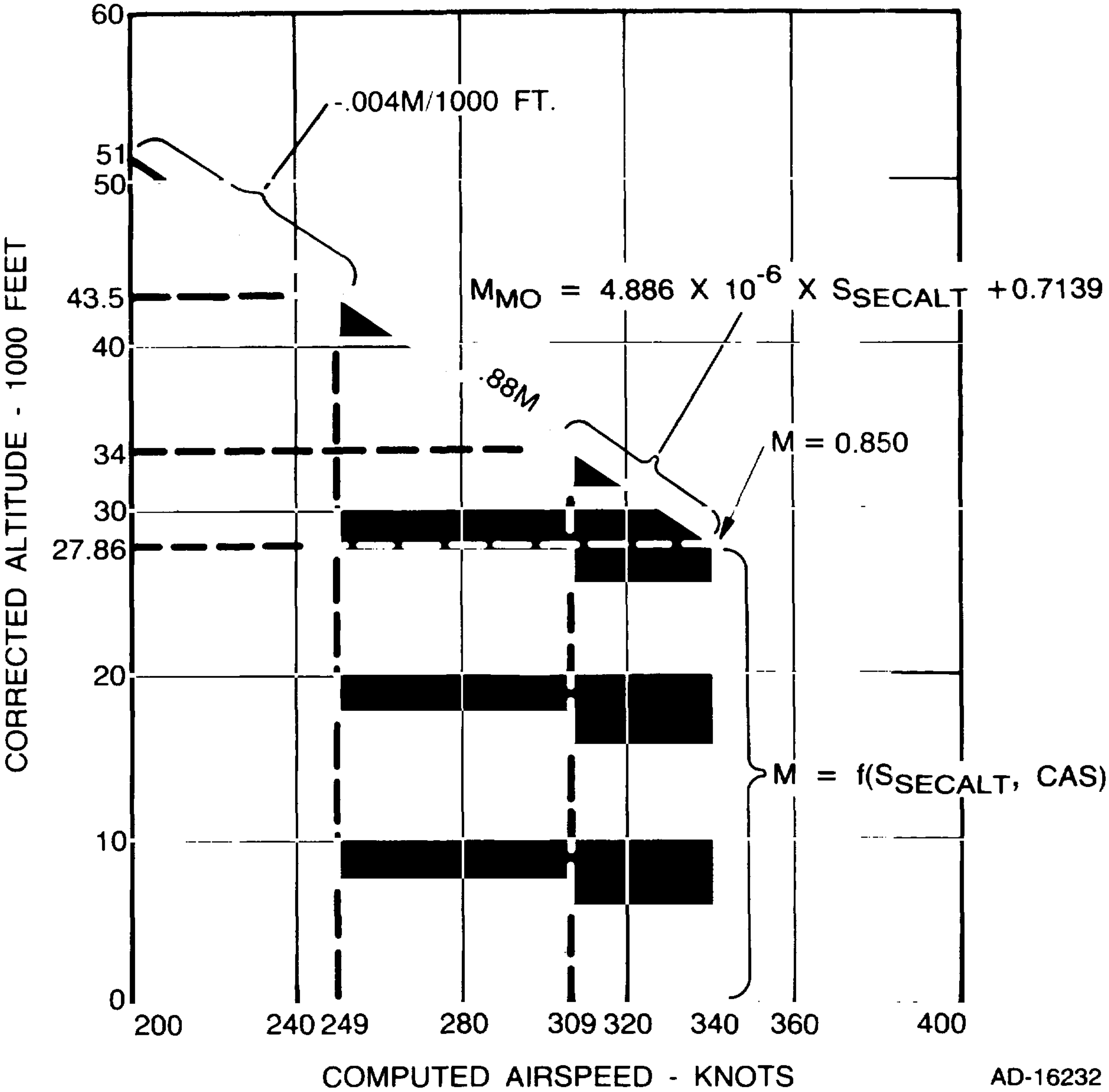
DADC Self-Test ARINC 429 Outputs
Table 407

Parameter	Self-Test Value	Units
Pressure Alt	4000	feet
Baro Corr Alt	1000	feet
Alt Rate	5000	feet per minute
CAS	350	knots
TAS	466	knots
Mach No.	0.790	Mach
SAT	-45	°C
TAT	-16	°C
V_{MO}	300	knots
M_{MO}	0.880	Mach
Impact Pressure	9	inHg
Total Pressure	32	inHg
Baro Set	1013.3	millibars
Baro Set	29.921	inHg
V_{MO} Warning	Off	---
Altitude Alert Lamp	Off	---
Normal AOA	0.5	ratio
True AOA	5	degrees
Valids	invalid	---
NOTE: In self-test, test bit in WSP1 is set.		

DADC ASCB Self-Test Outputs
Table 408

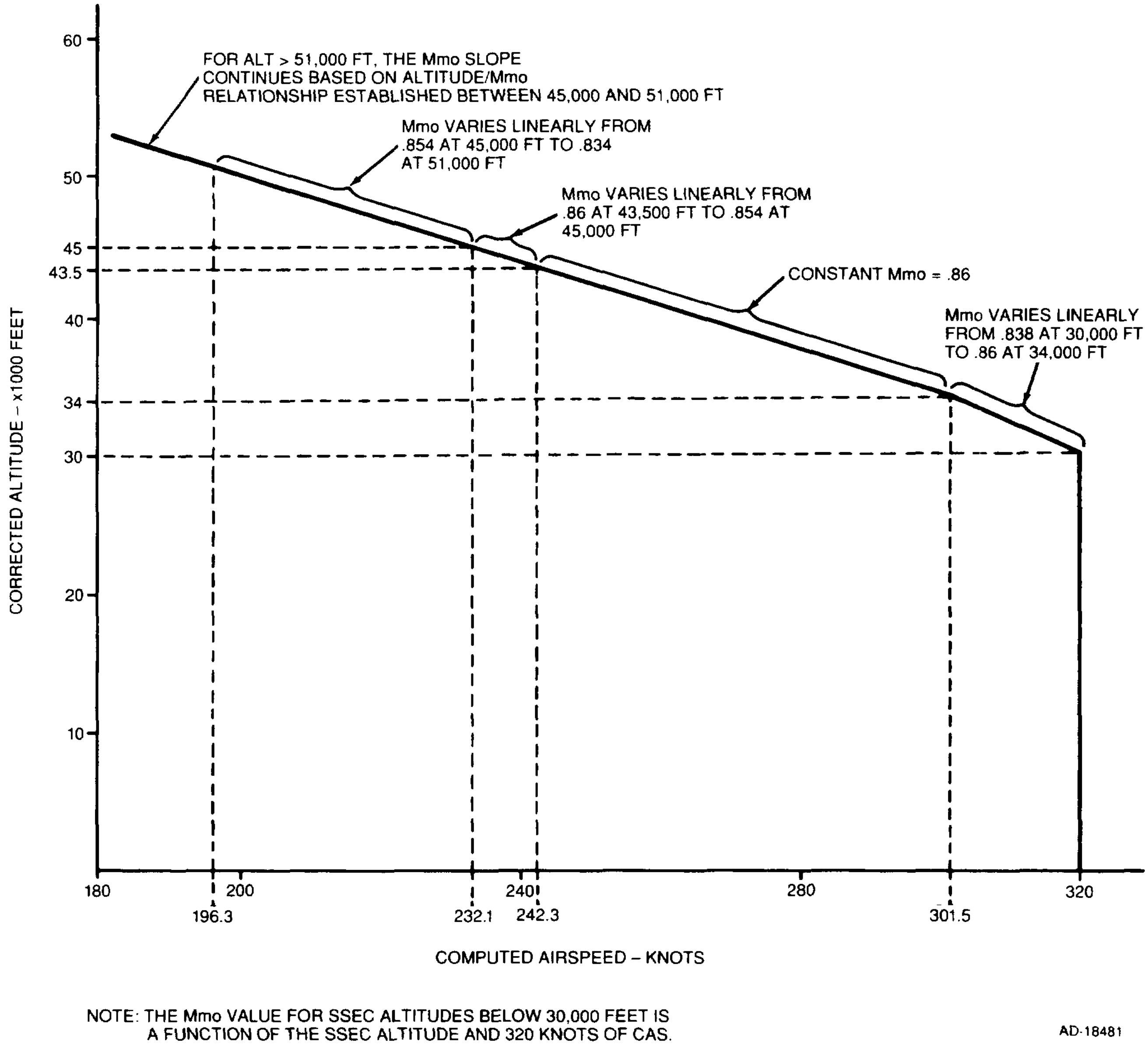


Cabin Pressure Ratio Output
Figure 402



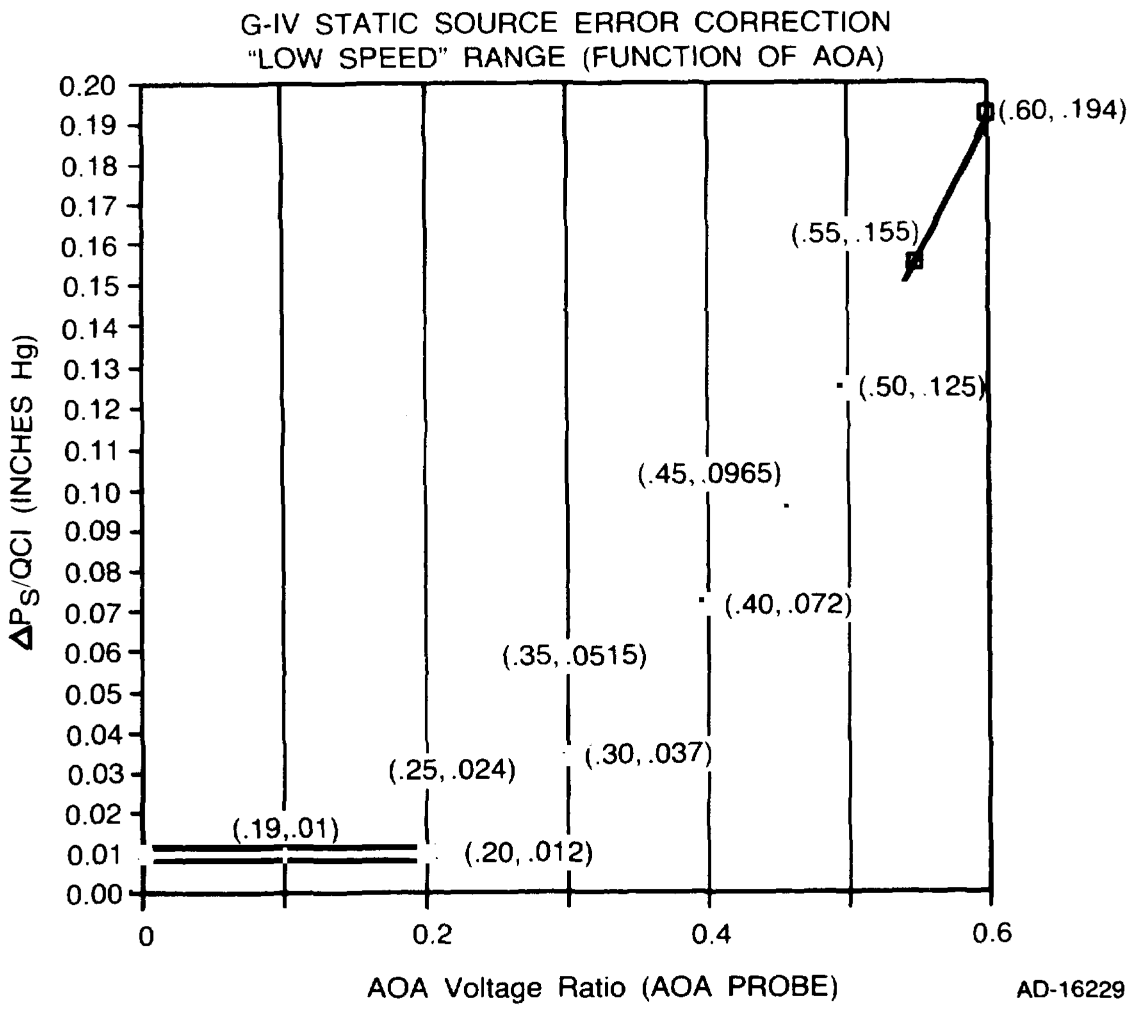
The M_{MO} value for SSEC altitudes below 27,860 feet is a function of the SSEC altitude and 340 knots of CAS.

FAA V_{MO} Function for the Gulfstream IV
Figure 403



The M_{MO} value for SSEC altitudes below 30,000 feet is a function of the SSEC altitude and 320 knots of CAS.

CAA V_{MO} Function for the Gulfstream IV
Figure 404



NOTE: True $P_S = PSI \left(\frac{PS}{PSI} \right) + QCI \frac{\Delta PS}{QCI}$

QCI = indicated Q_C

PSI = indicated P_S

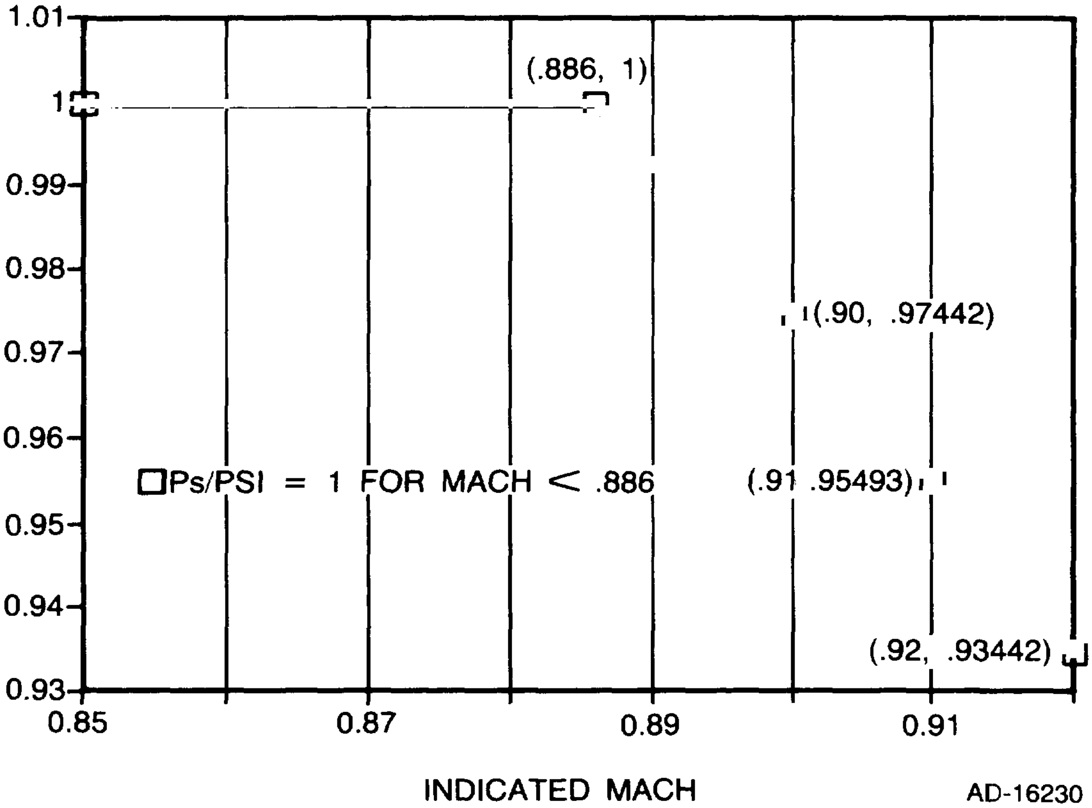
$\frac{\Delta PS}{QCI}$ is calculated according to the graph above.

$\frac{PS}{PSI}$ is calculated according to the graph on Figure 406.

$\left(\frac{PS}{PSI} = 1 \text{ when Mach} < 0.886 \right)$

This correction curve is used at all Mach numbers.

SSEC (Low-Speed Range) for the Gulfstream IV
Figure 405



NOTE: True P_S = (PSI) $\frac{PS}{PSI}$ + QCI $\frac{\Delta PS}{QCI}$

PSI = indicated P_S

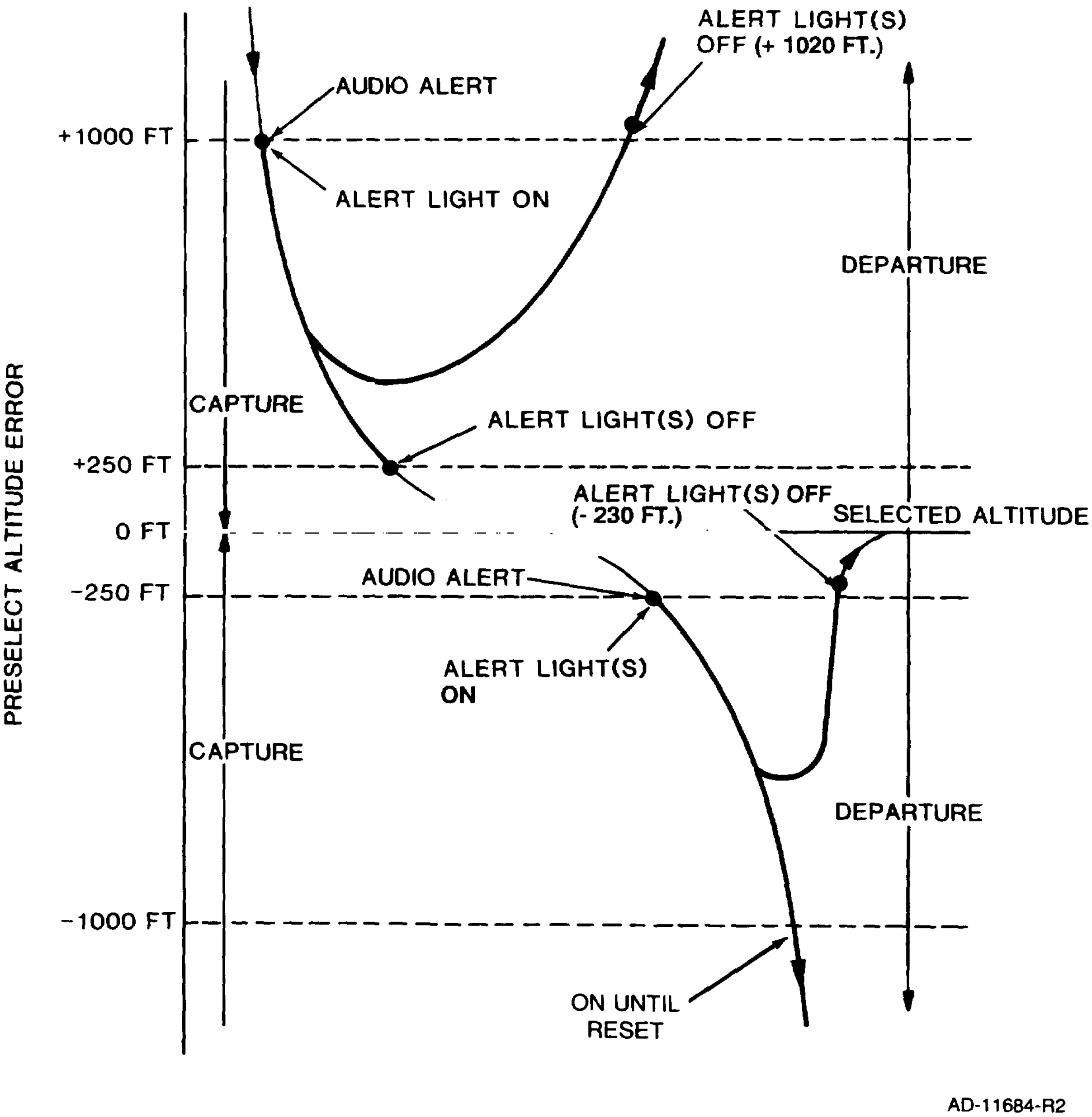
QCI = indicated Q_C

$\frac{\Delta PS}{QCI}$ is calculated according to the graph on Figure 405.

$\frac{PS}{QCI}$ is calculated according to the graph above.

This correction curve is used when indicated Mach number is less than or equal to 0.886.

SSEC (High-Speed Range) for the Gulfstream IV
Figure 406



Altitude Alerting Sequence
Figure 407

4. C. Angle of Attack (AOA) Operation

The air data computer receives information in the form of discrete inputs (flaps position discretes), analog input (Teledyne angle of attack potentiometer) and digital bus inputs (AOA indexer set and test mode commands from the display controller). The DADC performs calculations and comparisons, and outputs information in the form of discrete outputs (indexer switch discretes and test mode switch discretes) and digital bus outputs (true AOA on ASCB, normal AOA on ASCB and ARINC 429, and flap position discretes on ASCB). These outputs are used by the symbol generator for display on the EFIS to drive indexer lamp indicators and annunciate AOA test modes to other system components. Figure 408 is a general block diagram of DADC AOA I/O.

• AOA Test Mode Operation

Two test modes are commanded by the display controller: (1) AOA sea level test and (2) AOA 15,000 feet test. In the test mode, a discrete switch called AOA test mode switch is set in combination with (1) AOA sea level test switch or (2) AOA 15,000 feet test switch to indicate test mode status. In AOA sea level test, the pressure altitude output is driven to 0.750 V dc which is the sea level altitude output voltage. In the AOA 15,000 feet test, the pressure altitude output is driven to 3.750 V dc (sea level) altitude output voltage. In either AOA test the potentiometer and flap position inputs and related outputs operate normally.

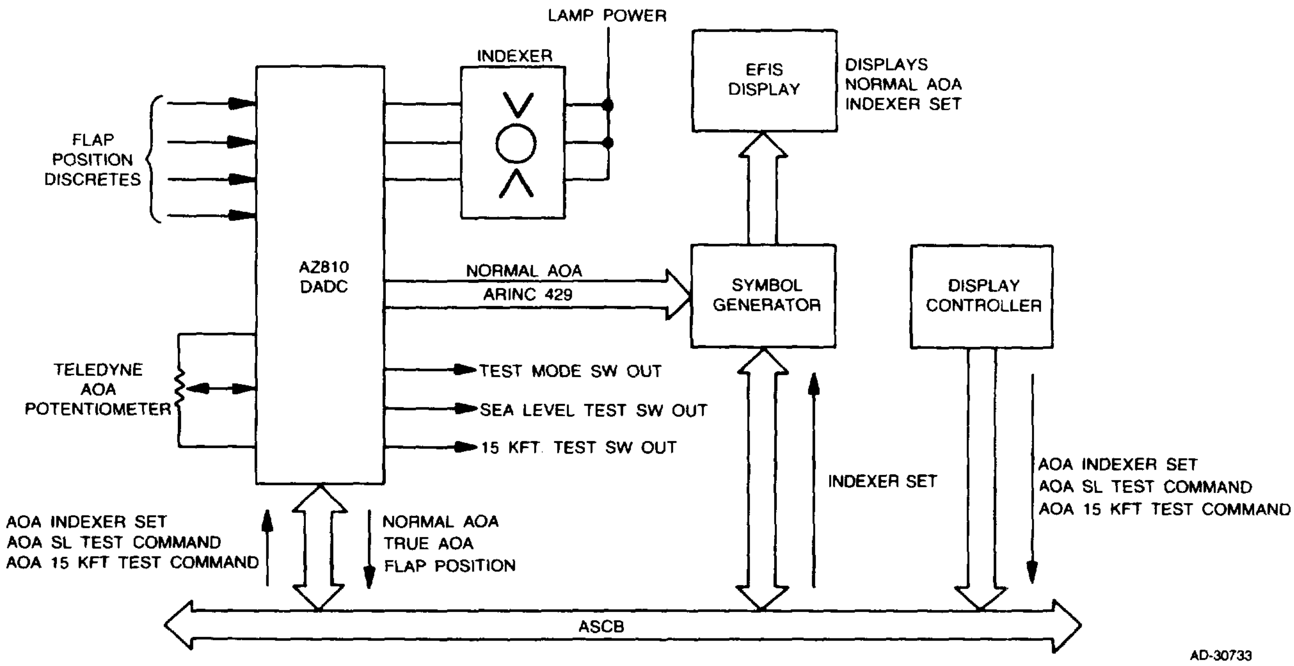
D. DADC Red X Failures

There are a number of items listed below which will cause air data items to red X on the primary flight display.

(1) AOA Probe - The air data computer receives angle of attack information from the on-side AOA probe. The computer uses this information to compute normalized angle of attack and to calculate static source error correction (SSEC). SSEC is applied to baro-corrected altitude, calibrated airspeed, Mach, and true airspeed. If AOA information goes invalid, the following is either red X or amber dashed on the primary flight display or the navigation display:

- Angle of Attack
- Airspeed
- Mach
- Altitude
- True Airspeed

The AOA information comes from one of the four potentiometers which are mechanically connected to the AOA probe. The air data computer monitors this information to check that it is within a valid voltage range. If the probe is rotated against either its up or down stops, or if the potentiometer has open spots (dead spots) at certain positions, the air data computer will sense this and invalidate the AOA information. Note that the vertical speed display does not red X.



DADC AOA Block Diagram
Figure 408

4. D. (2) Flap Position - The air data computer receives flap position from four discretes which are tied to the flap handle switches in the pedestal. The computer uses the information to calculate normalized angle of attack. If flap position information goes invalid, the angle of attack display on the primary flight display will red X. The flap position information is monitored to check for valid input status. If the computer sees no flap position (i.e., flap handle between selections) or more than one flap position at the same time, the air data computer will sense this and invalidate the flap position information, thus invalid AOA.

(3) Total Air Temperature Probe - The air data computer receives total air temperature from the temperature probe. The computer uses the information to calculate total and static air temperature, and true airspeed. If air temperature information goes invalid, the static air temperature (SAT) and the true airspeed (TAS) on the navigation display will indicate amber dashes. The air temperature probe information is monitored for reasonableness and if the temperature exceeds 99 °C for 5 consecutive seconds, the air data computer will invalidate the air temperature information. The autopilot needs true airspeed for engagement.

(4) Baro-Correction - The air data computer receives baro-correction from the baro knob potentiometer of the display controller. If the baro-correction input goes invalid, the displayed altitude will red X and the baro set display will indicate amber dashes. The baro-correction is monitored to check that it is between 28.00 to 31.00 inHg. If the baro set goes outside of this range, the air data computer will sense this and invalidate it. An invalid baro set will occur if the knob is rotated against either stop or if the display controller is disconnected.

(5) EPR - The air data computer provides CAS and total pressure to the EPR transmitters. Loss of this data to the EPR transmitter will result in the EICAS message EPR 1 USING DADC 2 or EPR 2 USING DADC 1.

(6) Internal Failures - The air data computer has a number of internal monitors which check to insure items internal to the LRU are operating properly (e.g., pressure sensors, power supply, aircraft ID input discretes, etc). If the computer senses one of these, it will normally flag all the following outputs.

- Angle of Attack
- Airspeed
- Mach
- Altitude
- True Airspeed
- Vertical Speed
- Static Air Temperature
- Barometric Correction
- Cabin Pressure Ratio

EICAS will display DADC 1 (2) FAIL and EPR 1 USING DADC 2 or EPR 2 USING DADC 1 as appropriate.

5. AA-300 Radio Altimeter System

A. Preflight Test

(1) Rotate SET knob on the DC-884 Display Controller, with RAD ALT selected on the FLT REF menu, to set bug to 50 feet.

CAUTION: UNDER NO CIRCUMSTANCES SHALL POWER BE TURNED ON WITH THE TRANSMIT ANTENNA DISCONNECTED FROM THE TRANSMITTER OR DAMAGE TO THE TRANSMITTER MAY RESULT.

(2) Turn on system power. The RAD ALT display on the PFD shall indicate 0 ± 5 feet.

(3) Select the TEST menu on the DC-884 Display Controller. Press and hold the RAD ALT line select button. The RAD ALT display on the PFD shall indicate 100 ± 10 feet, and the DH annunciator shall not be lit.

(4) Release the line select button. The RAD ALT display on the PFD shall return to 0 ± 5 feet, and the DH annunciator shall light.

B. In-Flight Test

NOTE: The self-test feature is inhibited with autopilot engagements, so the autopilot must be temporarily disengaged before performing in-flight tests.

(1) Verify that no amber dashes are present in the RAD ALT display on the PFD and the display blanks when the aircraft climbs above 2500 feet absolute altitude.

NOTE: RAD ALT display will blank below 2500 feet if the ground return signal is lost. The display may blank momentarily when the aircraft is in a bank in excess of 45 degrees (this is normal).

(2) Rotate SET knob on the DC-884 Display Controller with RAD ALT selected on the FLT REF menu to select a DH of 200 feet.

(3) Press and hold the line select button labeled RAD ALT on the TEST menu. The RAD ALT display shall indicate 100 ± 10 feet, and the DH annunciator shall light.

(4) Release the line select button. The RAD ALT display shall return to the previous indication.

(5) Rotate SET knob to desired position with RAD ALT selected on the FLT REF menu of the DC-884 Display Controller.

6. EDZ-884 Electronic Display System (EDS)

A. Trend and Limit Monitoring

(1) Overview

The trend and limit monitoring portion of the FC-880 Fault Warning Computer (FWC) acts as a data acquisition and storage system for recording aircraft, engine and APU data under various circumstances and requirements. This function operates automatically using passive (no operator interface required) recording techniques. An option for an operator-initiated recording is also provided.

Engine trend data recording consists of a set of engine and aircraft parameters recorded during steady state flight (cruise) and during takeoff. APU data is recorded just prior to the first engine start of a flight. This type of recording is used to monitor the long-term histories and relative health of the aircraft engines and APUs.

An engine limit exceedance triggers the recording of sequential sets of engine and aircraft parameters. This sequential set of parameters includes pre- and post-exceedance data points in order to produce detailed time vs. parameter value plots of an engine exceedance. Likewise, an APU exceedance triggers the recording of sequential sets of APU and aircraft parameters. Also, the operator will be able to manually trigger a recording of engine and aircraft data of the same format as an exceedance.

Data extraction is the responsibility of the aircraft operator/ manufacturer and is easily performed using a dedicated output from the FWC. This output directly interfaces to the DL-800/900 Data Loader using a standard RS-232 bus format. All data processing will be done via a ground-based system chosen by the aircraft operator/ manufacturer.

The memory to record trend and limit exceedance data is nonvolatile EEPROM requiring no hold-up power. 64K bytes of memory is allocated for trend and limit recording with provisions for an additional 64K bytes of memory included for growth. The FWC maintenance test contains a message indicating EEPROM memory usage.

The engine and aircraft parameters to be recorded in both trend and limit exceedance monitoring, along with their associated acronyms, are listed in Table 409. APU parameters are listed in Table 410. The range and resolution of each parameter recorded is identical to that transmitted by the DA-880 Data Acquisition Unit (DAU) and used for engine instrument and other displays.

Acronym		Parameter
TGT	-	Turbine Gas Temperature
LP (N1)	-	Low Pressure Tach
HP (N2)	-	High Pressure Tach
EPR	-	Engine Pressure Ratio
FF	-	Fuel Flow
TVI	-	Turbine Vibration Indication (LP, HP)
EOT	-	Engine Oil Temperature
EOP	-	Engine Oil Pressure
FQ	-	Fuel Quantity
WAI	-	Wing Anti-ice
EAI	-	Cowl Anti-ice
SVO	-	Start Valve Open/Closed
GMT	-	Greenwich Mean Time
DATE	-	Day, Month, Year
MACH	-	Mach Number
ALT	-	Pressure Altitude
CAS	-	Calibrated Airspeed
LATERAL MODE	-	Lateral Autopilot Mode
VERTICAL MODE	-	Vertical Autopilot Mode
AT MODE	-	Autothrottle Mode
AOA	-	Angle of Attack
SAT	-	Static Air Temperature
BLDP	-	Bleed Air Pressure
STARTS	-	Number of Engine Starts

Engine and Aircraft Trend and Limit Exceedance Parameters
Table 409

Acronym		Parameter
APU EGT	-	APU Exhaust Gas Temperature
APU RPM	-	APU Rotor Speed
BLDP	-	Bleed Air Pressure
GMT	-	Greenwich Mean Time
DATE	-	Day, Month, Year
ALT	-	Pressure Altitude
SAT	-	Static Air Temperature

APU Recording Parameters
Table 410

Unless otherwise specified, all data is retrieved from the selected DAU channel, as indicated by the DA-884 Display Controller; NZ-9XX (1), if valid, otherwise NZ-9XX (2); DADC (1), if valid, otherwise DADC (2); IRS (1), if valid, otherwise IRS (2); the priority FZ-820 FGC; the priority PZ-800 (AT); and the priority PZ-800 (Perf). If an automatic switch to another source is not allowed, as with the DAU, FGC, Perf, and AT, and the device is invalid, zeroes will be recorded. This scheme also allows for data source mixing. For example, to determine steady state conditions, Mach may be taken from DADC (1) while altitude is taken from DADC (2).

6. A. (2) Trend Recording

Engine data from two different flight conditions are recorded for trend analysis: cruise and takeoff. Cruise condition recordings provide a meaningful historical trend of engine performance. Takeoff data provides a basis for assessing engine margin deterioration.

Takeoff data is recorded when the aircraft reaches 100 knots during the takeoff roll for every flight. Takeoff data is recorded regardless of the steady-state criteria or weight-on-wheels indication. The enabling logic for the 100 knots trend recording is valid airspeed > 100 knots from both DADCs and valid groundspeed > 50 knots from the NZ-9XX Navigation Computers (NZ). Default to NZ 1 groundspeed if NZ 1 is valid and groundspeed is valid (WSP 8, bit 0), otherwise use NZ 2 groundspeed if valid and groundspeed is valid. If neither is valid, disable the 100-knot trend recording.

The aircraft and engine parameters which define cruise, their origin, and associated allowable deviations or tolerances about a fixed value are listed in Table 411. Data sources for these parameters are as previously discussed. Failure of all sources for a parameter used to determine steady state results in suspension of the trend recording function.

A flight's first cruise trend recording is made at the first instance the steady-state flight conditions are satisfied immediately following the takeoff recording. Cruise trend recordings are taken at approximately one and one-half (1-1/2) hour intervals following this initial recording. Steady-state flight, as defined in Table 411, must be satisfied prior to a cruise trend recording with weight-on-wheels used to inhibit any trend recording during nonideal conditions such as engine runs on the ground. A ground state on FWC J1A-100 causes trend data to be recorded at 5-minute intervals. The FWC enables a blue TREND RECORD message whenever trend data is recorded with J1A-100 grounded.

The specific method of recording engine and aircraft parameters requires the use of two recording techniques: snapshot and picture. A snapshot is defined as a single frame, or value, of a specific parameter at a given point in time. The FWC records snapshot data by placing the current value of a parameter in nonvolatile memory. A picture is formed by computing the average of a parameter over a 1-second period. The number of values which make up the average depends on the density of that parameter on the ASCB. The FWC records picture data by placing the computed average value of a parameter in nonvolatile memory. Engine parameters are recorded as pictures and accounting or aircraft configuration parameters are stored as snapshots.

Table 412 lists the parameters recorded and which type of recording is required. The particular data source for each parameter is as previously defined.

The FWC maintains an engine starts log. An engine start is defined as the transition of the left and right SVO discretes from 0 to 1. The engine start count is incremented each time both SVO discretes transition from 0 to 1. The source of the SVO discretes is the selected DAUs. Failure of either selected DAU channel results in loss of engine start data for the current flight. The engine start count is reset to 0 when EEPROM is erased.

APU trend data is recorded just prior to the first engine start of each flight. The logic to enable an APU trend recording is weight-on-wheels active and the transition of either SVO discrete from 0 to 1. As before, the SVO discretes are retrieved from the selected DAU. Failure of both selected DAUs results in loss of the APU trend function. APU trend data is stored using both the picture and snapshot techniques. Table 413 lists the APU parameters recorded, which type of recording is required, and the data source. The FWC uses a quasi endless-loop technique to compute and retain a current picture of various APU parameters. The current APU picture plus snapshot data is moved to nonvolatile memory at the time the APU trend recording is enabled.

Parameter	Data Source	Allowable Deviations (Deltas)
Vertical Acceleration	IRS	±0.10 g
Mach Number	DADC	±0.05
Pressure Altitude	DADC	±200 ft
Total Air Temperature	DADC	±5.0 °C
HP (L)	DAU	±2.0%
HP (R)	DAU	±2.0%

Steady State Flight Condition Parameters
Table 411

Parameter	Picture (Average)	Snapshot	Data Source
RECORDING TYPE		X	FWC
TGT (L,R)	X		DAU
EPR (L,R)	X		DAU
LP (L,R)	X		DAU
HP (L,R)	X		DAU
FF (L,R)	X		DAU
EOT (L,R)	X		DAU
EOP (L,R)	X		DAU
TVI, LP (L,R)	X		DAU
TVI, HP (L,R)	X		DAU
BLEED AIR PRESS (L,R)	X		DAU
SVO (L,R)		X	DAU
WAI (L,R)		X	DAU
EAI (L,R)		X	DAU
FQ		X	DAU
DATE		X	FMS
GMT		X	FMS
ALT		X	DADC
CAS		X	DADC
AOA (NORM)		X	DADC
SAT		X	DADC
MACH		X	DADC
LATERAL MODE		X	FGC
VERTICAL MODE		X	FGC
AT MODE		X	AT
STARTS		X	FWC
CHECKSUM		X	FWC

Engine Trend Data Recording Parameters
Table 412

Parameter	Picture (Average)	Snapshot	Data Source
RECORDING TYPE		X	FWC
APU EGT	X		DAU
APU RPM	X		DAU
BLEED AIR PRESS (L,R)	X		DAU
GMT		X	FMS
DATE		X	FMS
ALT		X	DADC
SAT		X	DADC
CHECKSUM		X	FWC

APU Trend Recording Parameters
Table 413

6. A. (3) Engine and APU Limit Exceedance Recording

Limit exceedance recording permits the aircraft and engine manufacturers to accurately determine the health of engines after a limit exceedance. The aircraft operator is able to review a portion of the data associated with the last exceedance detected since power-up. This operator-accessible data includes maximum value and time duration of an exceedance and is available on the EXCEEDANCE system page of the crew alerting system display. This same information is also included in the complete nonvolatile memory data package.

The limit exceedance recording includes a data package sufficient to determine the events occurring prior to, at, and immediately after the exceedance. For accounting purposes the time (in GMT) and date of the event are also included in the data package. To complete the data package, the maximum values attained at any time during the exceedance and duration of each exceedance are also recorded. As both pre- and post-exceedance data points are recorded, this data is suitable for creating time vs. magnitude history plots of an exceedance.

Table 414 lists the specific conditions for exceedance event recognition. The source of data is as previously discussed.

An exceedance event commences with any one of the enabling conditions listed in Table 414. The exceedance continues until all parameters have satisfied their disabling conditions listed in Table 414 or until 5 minutes has elapsed, whichever occurs first.

Type	Parameter	Data Source	Limit (Enable Exceedance)	Disable
Engine	LP	DAU	LP > 95.5, 20 sec	LP ≤ 95.0
Engine	LP	DAU	LP > 98.3, 500 ms	LP ≤ 95.0
Engine	HP	DAU	HP > 97.5, 5 min	HP ≤ 97.0
Engine	HP	DAU	HP > 99.7, 20 sec	HP ≤ 97.0
Engine	HP	DAU	HP > 102.7, 500 ms	HP ≤ 97.0
Engine	TGT	DAU	TGT > 715, 5 min	TGT ≤ 710
Engine	TGT	DAU	TGT > 800, 20 sec	TGT ≤ 710
Engine	TGT	DAU	TGT > 820, 500 ms	TGT ≤ 710
Engine	Engine Fire	DAU	ASCB bit = logic 1 -and- A/S > 60 kt (500 ms)	bit = logic 0 -or- A/S ≤ 60 kt
Engine	Operator Request	FWC	FWC J1A-81=open to ground transition (500 ms)	J1A-81=open
APU	APU Fire	DAU	ASCB bit = logic 1 -and- A/S > 60 kt (500 ms)	bit = logic 0 -or- A/S ≤ 60 kt

Parameters Monitored for Exceedance Event Recording
Table 414

An operator-requested engine exceedance recording input is included. This input consists of a cockpit or avionics rack-mounted momentary pushbutton. The pushbutton provides a ground state on FWC J1A-81. The FWC enables an engine exceedance recording in response to an open-to-ground transition on this input. The FWC monitors maximum values and time-in-exceedance for 25 seconds or until 5 minutes has elapsed, whichever is shorter. Recordings made in response to this input are so noted in the trigger source byte included in each exceedance data package.

The FWC enables a timed 5-second blue ENGINE EXCEEDANCE message when an engine exceedance is detected, and a timed 5-second blue APU EXCEEDANCE message when an APU exceedance is detected.

There are six types of recording techniques used to accumulate the limit exceedance data package. They are:

- Snapshot recording
- Picture recording
- Endless-loop recording
- Time-in-exceedance recording
- Maximum value recording
- Short-term display recording (volatile memory only)

The principle technique used to form the limit exceedance data package is endless-loop recording. Endless-loop recording makes use of both picture and snapshot data to compile data points before and after an exceedance to permit formation of time vs. parameter value histories. In particular, a record of parameter values for the past 15 seconds is maintained in volatile memory. Upon detection of an exceedance, an additional 10 seconds of parameter values are stored in volatile memory. The entire 25-second history is transferred to nonvolatile memory. The fifteenth record is the data point which represents a picture of the parameter value at the time of the exceedance.

Accumulation of the 15-second past-history data is accomplished by continuously updating a series of 15 sequential pictures recorded at 1-second intervals. Each picture shall be the average of the parameter values over a 1-second period. Data recorded during the 10 seconds following the detection of an exceedance is done in the same manner.

The time-in-exceedance recording method is used to create a record of the amount of time a parameter remains in its exceedance band. The FWC records the total amount of time a parameter is in its exceedance band during any given exceedance event. The FWC makes only one recording per parameter per exceedance event.

Maximum value recording requires the FWC to determine and store the maximum value a parameter attains during an exceedance event. The FWC continuously monitors specific parameters during each exceedance event and stores in nonvolatile memory each maximum value achieved.

The short-term display recording consists of placing specific exceedance data in volatile memory for immediate recall and display by the operator. The FWC retains the maximum value and time-in-exceedance data of the most recent exceedance experienced since power-up. In addition, the source of the exceedance trigger is included with this data. This data is recalled and transmitted via the ASCB system page buffer in response to the display controller selection of the exceedances system page. The time-in-exceedance data is displayed as 1 second for times less than 1 second and is rounded to the nearest second for times greater than 1 second. Figure 409 shows the format of the EXCEEDANCE system page. The FWC enables a white NO EXCEEDANCES RECORDED message for display on the EXCEEDANCES page when no exceedances have been recorded.

```
EXCEEDANCES

ENGINE EXCEEDANCE
MAX-TIME
TGT: 0000 0:00    0000 0:00
LP: 000.0 0:00  000.0 0:00
HP: 000.0 0:00  000.0 0:00
TRIGGERED BY:  xxxxxxx

APU EXCEEDANCE
MAX
EGT:  0000
RPM: 000.0
TRIGGERED BY:  xxxxxxx
```

Exceedance System Page Format
Figure 409

To properly correlate the event, specific accounting parameters must be included in the exceedance data package. Table 415 lists the parameters to be recorded during an engine exceedance and the type of recording to be used. Table 416 lists the parameters to be recorded during an APU exceedance and the type of recording to be used.

The FWC includes a trigger source byte in each exceedance data package. This byte indicates the parameter responsible for triggering the exceedance recording (i.e., L TGT, R HP, operator, etc.).

Exceedance events are limited in the FWC to occur no more frequently than once every 25 seconds. This guarantees the FWC will gather the 10-second post-exceedance data for the current event and the 15-second pre-exceedance data for the next event.

Parameter	Type of Record Pre-Event/ Post-Event Endless-Loop	Snapshot	Max Value	Time in Exceedance	Data Source
RECORDING TYPE		X			FWC
TGT (L,R)	X		X	X	DAU
LP (L,R)	X		X	X	DAU
HP (L,R)	X		X	X	DAU
EPR (L,R)	X				DAU
FF (L,R)	X				DAU
EOT (L,R)	X				DAU
EOP (L,R)	X				DAU
TVI, LP (L,R)	X				DAU
TVI, HP (L,R)	X				DAU
Bleed Air Press (L,R)	X				DAU
SVO (L,R)		X			DAU
WAI (L,R)		X			DAU
EAI (L,R)		X			DAU
FQ		X			DAU
DATE		X			FMS
GMT		X			FMS
GW		X			PERF
ALT		X			DADC
CAS		X			DADC
AOA (NORM)		X			DADC
SAT		X			DADC
MACH		X			DADC
LATERAL MODE		X			FGC
VERTICAL MODE		X			FGC
AUTOTHROTTLE MODE		X			AT
TRIGGER SOURCE		X			FWC
CHECKSUM		X			FWC

Engine Exceedance Recording Parameters
Table 415

Parameter	Type of Record Pre-Event/ Post-Event Endless-Loop	Snapshot	Max Value	Data Source
RECORDING TYPE		X		FWC
APU EGT	X		X	DAU
APU RPM	X		X	DAU
Bleed Air Press (L,R)	X			DAU
GMT		X		FMS
DATE		X		FMS
ALT		X		DADC
SAT		X		DADC
CHECKSUM		X		FWC

APU Exceedance Recording Parameters
Table 416

6. A. (4) FC-880 Fault Warning Computer (FWC) Data Download Requirements

The contents of EEPROM are transmitted outside the FWC by means of an RS-232 data link. The requirements to perform the download are as follows:

- Weight-on-wheels
- IAS < 50 knots on either valid DADC or both DADCs invalid
- Not in maintenance test
- J1A-86 = GND
- Debounced for 500 ms
- DL-800/900 Data Loader connected/powered on
- 3-1/2-inch floppy disk installed in DL-800/900 with write-protect tab in view

NOTE: Both FWCs may go invalid while the DL-800/900 formats the diskette. The FWC not being downloaded will become valid when formatting is complete.

Upon completion of download, an internal flag is set that enables the memory to be erased. The requirements for memory erase are as follows:

- Weight-on-wheels
- IAS < 50 knots on either valid DADC or both DADCs invalid
- Download complete
- J1A-68 = GND
- Debounced for 500 ms

Memory erasure is accomplished by storing zeroes in all memory locations.

A DOWNLOAD IN PROGRESS 28V/OPEN discrete output is provided on J1B-94. The output is set to 28 V when a download is in progress, otherwise the output is set to OPEN.

An ERASE IN PROGRESS 28V/OPEN discrete output is provided on J1B-95. The output is set to 28 V when an EEPROM erase is in progress, otherwise the output is set to OPEN.

The data loader/fault warning interface is shown in Figure D-2.4 of Interconnects, Table 501.

Refer to paragraph 6.A.(5) for the FC-880 FWC trend and limit download procedure.

6. A. (5) FC-880 FWC Trend and Limit Download Procedure

NOTE: Refer to paragraph 6.A.(4) for download requirements.

(a) Setup

1 Apply electrical power to A/C.

2 Power-up all display units.

3 Perform FWC memory usage EEPROM bit test, as required.

4 Connect DL-800/900 Data Loader to connector on copilot's console.

CAUTION: DO NOT USE FLOPPY DISK ON WHICH DATA DOWNLOAD ALREADY ACCOMPLISHED. DATA LOADER WILL ERASE ALL PREVIOUS DATA.

5 Place a 3-1/2-inch floppy disk in data loader.

NOTE: Ensure that write protect tab on disk is closed (hole is covered) or that disk is not a write protect disk.

6 Ensure data loader ON and DATA lights are illuminated. Position of selector switch on data loader does not affect data download.

(b) Procedure

1 Select FWC #1 or FWC #2 on R/H side monitor panel switch.

2 Select, as desired, FWC #1 or FWC #2 on sensor page of either DC-884 Display Controller.

3 On R/H monitor panel, press to test and verify DNLOAD IN PROGRESS (blue) and ERASE IN PROGRESS (yellow) lights illuminate.

4 Press and hold the DATA DNLOAD switch for approximately 1 second. Ensure that CAS display has a red X and DNLOAD IN PROGRESS light illuminates for duration of download (solid blue light).

NOTES: 1. If DNLOAD IN PROGRESS light is flashing after being selected, remove disk. Either the write protect tab is not closed, or a bad disk is installed. Reset both FWC circuit breakers and any other breakers required due to erroneous messages. Assure that write protect tab is closed or that proper disk is installed, and repeat steps 1 thru 4 of procedure.

2. The FWC being downloaded will display a red X during download process. The off-side FWC will have a red X only during formatting of data disk (approximately 3 minutes). Side being downloaded will annunciate fail on CAS.

6. A. (5) (b) 5 After DNLOAD IN PROGRESS blue light extinguishes, remove disk from data loader. Open write protect tab on data disk, if applicable. Label disk with A/C serial number, FWC position, and date downloaded (e.g., 1163.#1.040891).

6 Press and hold the TREND ERASE switch (on the R/H monitor panel) for approximately 1 second. Ensure ERASE IN PROGRESS light (yellow) illuminates for duration of erase function (approximately 3 minutes).

7 Repeat all steps for opposite side FWC. Ensure a new floppy disk is inserted and appropriate FWC selected throughout the procedure. Identify correctly the data disk as defined in step 5.

8 Ensure DATA DNLOAD and TREND ERASE switch guards are positioned down.

9 Remove data loader and restore A/C to normal configuration.

10 Select maintenance test FWC on the DC-884 Display Controller. Verify that both FWC's engine exceedances are 0% EEPROM.

B. Troubleshooting Display Unit Red "X"ing

When the display unit (DU) displays a black display with a red X, the alternate SG should be selected which causes the DU to accept data from its ALT1 bus (Reference Appendix A, SG/DU Interface Requirements, page 598.110, Section 6, Interconnects). If the expected display appears, then the primary SG/DU bus interface should be verified for this DU. If the red X remains, then the DU should be removed and installed in a different position. If the red X follows the DU, then the DU should be replaced. If the expected display appears after moving the DU to a new location, the SG should be removed and installed in a different position. If the DUs driven by that SG have the expected display, then the SG/DU bus interface should be verified at the original locations. If a red X is displayed after moving the SG to a new location, then the SG should be replaced.

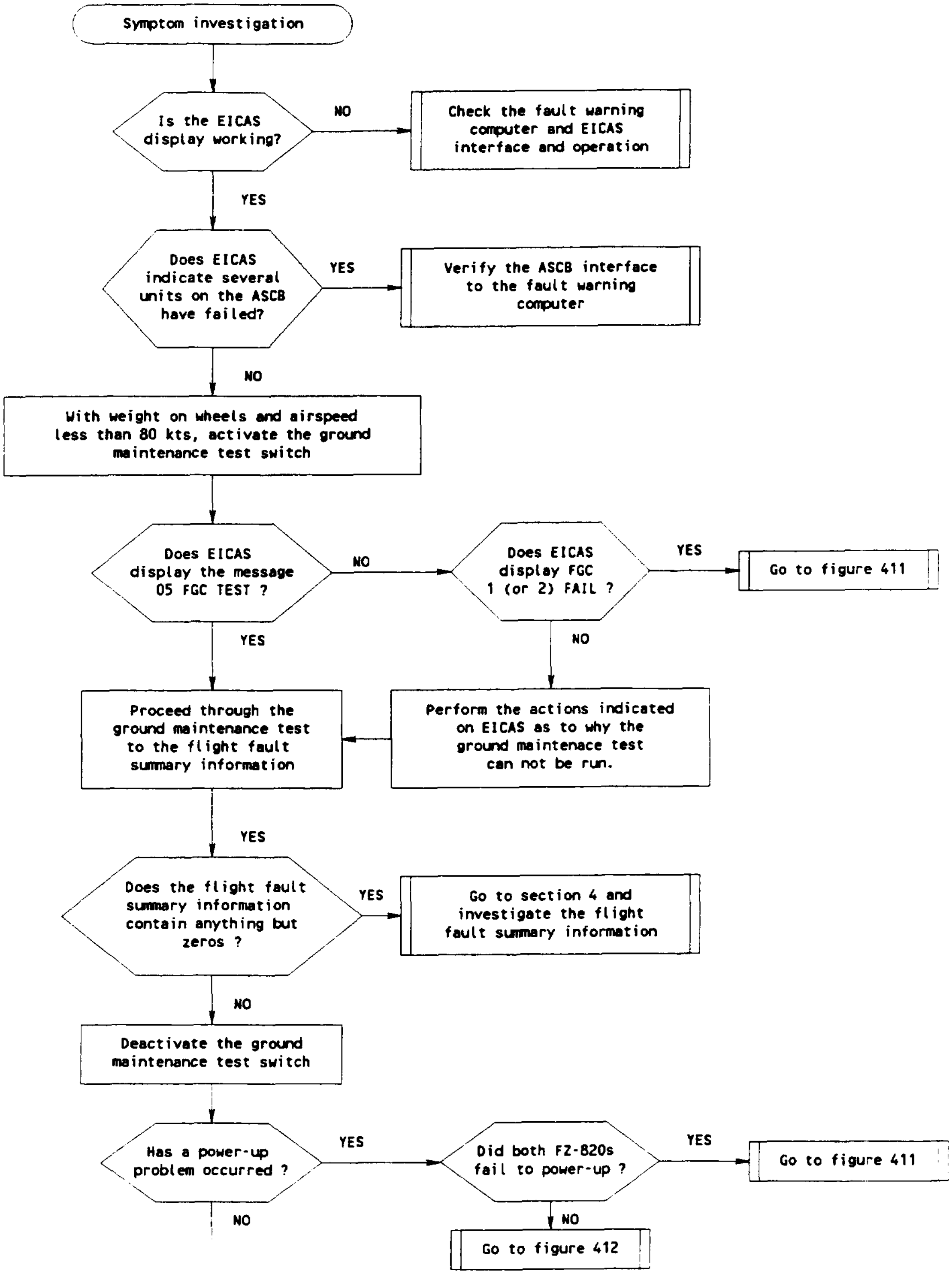
When the DU intermittently displays a black display with a red X, the DU should be swapped with a DU in another location. With the original DU in the new location, if a red X appears, this DU should be replaced. If the red X remains in the original location, then the SG should be swapped with another SG. If the DUs driven by the original SG in the new location red X, then the SG should be replaced. If the red X remains in the original location, then the SG/DU interface should be verified.

7. DFZ-820 Flight Guidance System

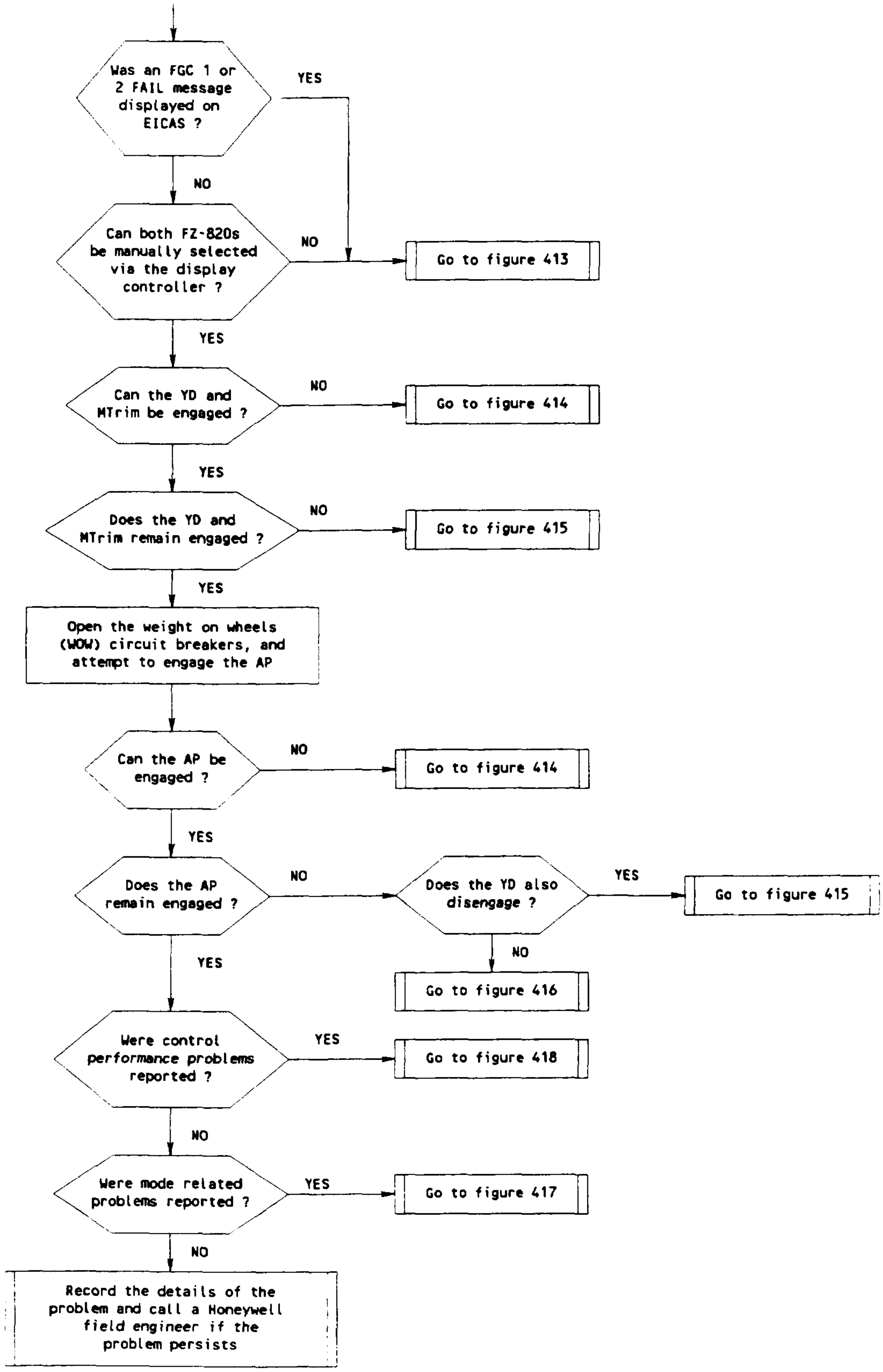
This paragraph contains troubleshooting flow charts and minimum wire requirements to aid in diagnosing faults of the DFZ-820 Flight Guidance System. The flow chart figures are listed in paragraph 7.A. and the tables are listed in paragraph 7.B.

A. List of Flow Chart Figures

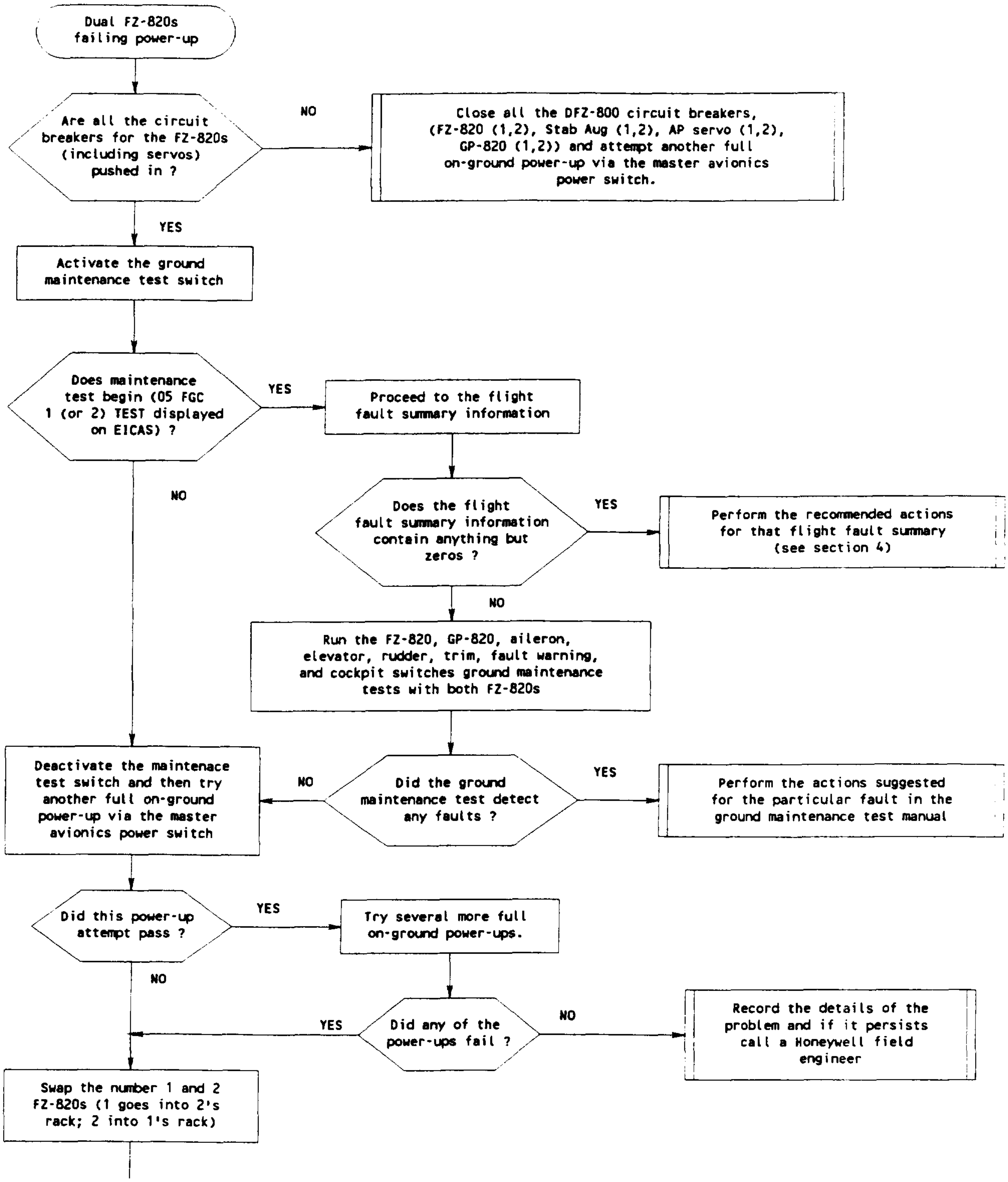
B. List of Tables



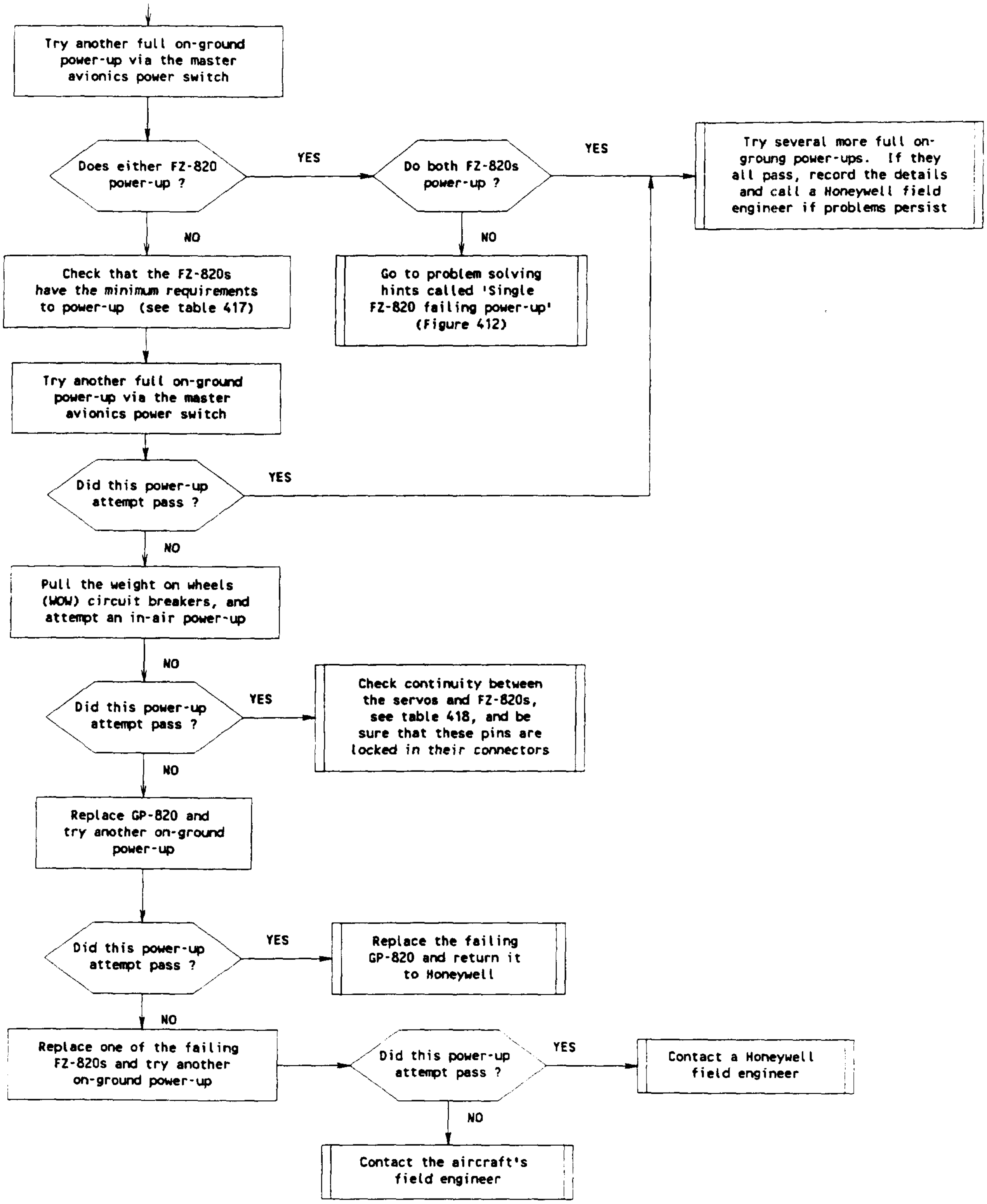
Diagnosing Symptoms
Figure 410 (Sheet 1)



Diagnosing Symptoms
Figure 410 (Sheet 2)



Both FZ-820s Failing Power-Up
(FGC 1 and 2 FAIL Messages on EICAS)
Figure 411 (Sheet 1)



Both FZ-820s Failing Power-Up
(FGC 1 and 2 FAIL Messages on EICAS)
Figure 411 (Sheet 2)

FZ-820 power:

28 v to pilot's/copilot's 10J1A-1,2
28 v to pilot's/copilot's 10J1A-4,5
28 v to pilot's/copilot's 10J1A-6,7
28 v to pilot's/copilot's 10J1A-8,9
28 v to pilot's/copilot's 10J2B-65

ASCB connections to:

pilot's/copilot's 10J1B-1 to ASCB HI
pilot's/copilot's 10J1B-2 to ASCB LO
pilot's/copilot's 10J2B-1 to ASCB HI
pilot's/copilot's 10J2B-2 to ASCB LO

Configuration discretes

Gnd to pilot's/copilot's 10J1B-79
Gnd to pilot's/copilot's 10J1B-81
Gnd to pilot's 10J1B-102
Gnd to copilot's 10J1B-103
Gnd to pilot's/copilot's 10J2B-67

Miscellaneous:

AP QD to pilot's/copilot's 10J2B-54,-66

Cross FZ-820 strapping:

10J2A-41 to C10J2A-42
10J2A-42 to C10J2A-41
10J2A-43 to C10J2A-44
10J2A-44 to C10J2A-43
10J2A-45 to C10J2A-46
10J2A-46 to C10J2A-45
10J2A-47 to C10J2A-48
10J2A-48 to C10J2A-47
10J2A-49 to C10J2A-50
10J2A-50 to C10J2A-49

Pilot FZ-820 to GP-820:

10J2A-65,66 to 11J1-12,13
10J2B-89 to 11J1-69
10J2B-96,97 to 11J1-5,6
10J2B-98,99 to 11J1-3,4
10J2B-100,101 to 11J1-7,8
10J2B-102,103 to 11J1-1,2
10J2B-106 to 11J1-38

Copilot FZ-820 to GP-820:

C10J2A-65,66 to 11J2-12,13
C10J2B-89 to 11J2-69
C10J2B-96,97 to 11J2-5,6
C10J2B-98,99 to 11J2-3,4
C10J2B-100,101 to 11J2-7,8
C10J2B-102,103 to 11J2-1,2
C10J2B-106 to 11J2-38

Note:
The full wiring required, it is documented in Section 6, Interconnects, Table 501.
The wiring listed here should allow entry into the ground maintenance test, so that the flight fault summary information can be used.

Minimum Wiring/Power Requirement
for FZ-820 to Run GMT
Table 417

Pilot's Wiring

FZ-820 to rudder actuator:

10J1A-58 to 14J1-A
10J1A-63,64 to 14JJ1-F,E
10J1A-59,60 to 14J1-M,J
10J1A-61,62 to 14J1-L,K
14J1-B to GND

FZ-820 to aileron servo

10J2A-57,58 to 12J1-1,2
10J2A-61 to 12J1-12
10J1B-70,71 to 12J1-16,17
12J1-14 to GND

FZ-820 to elevator servo

10J2A-55,56 to 13J1-1,2
10J2A-61 to 13J1-11
10J1B-68,69 to 13J1-17,16
13J1-14 to GND

Copilot's Wiring

FZ-820 to rudder actuator:

C10J1A-58 to 14J1-A
C10J1A-63,64 to 14J1-H,G
C10J1A-59,60 to 14J1-S,R
C10J1A-61,62 to 14J1-T,U
14J1-B to GND

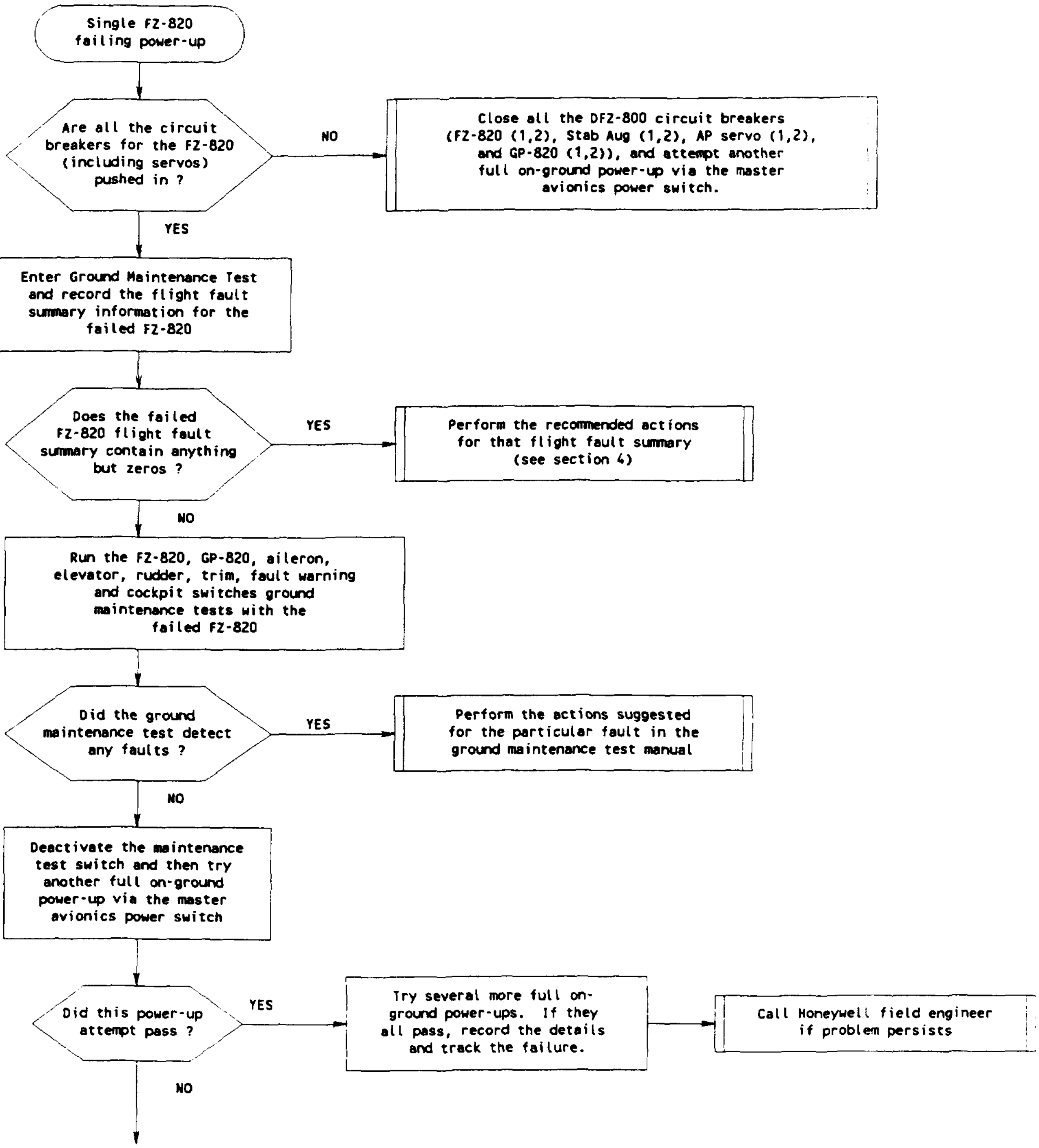
FZ-820 to aileron servo

C10J2A-57,58 to 12J2-1,2
C10J2A-61 to 12J1-12
C10J1B-70,71 to 12J2-17,16
12J1-22 to GND

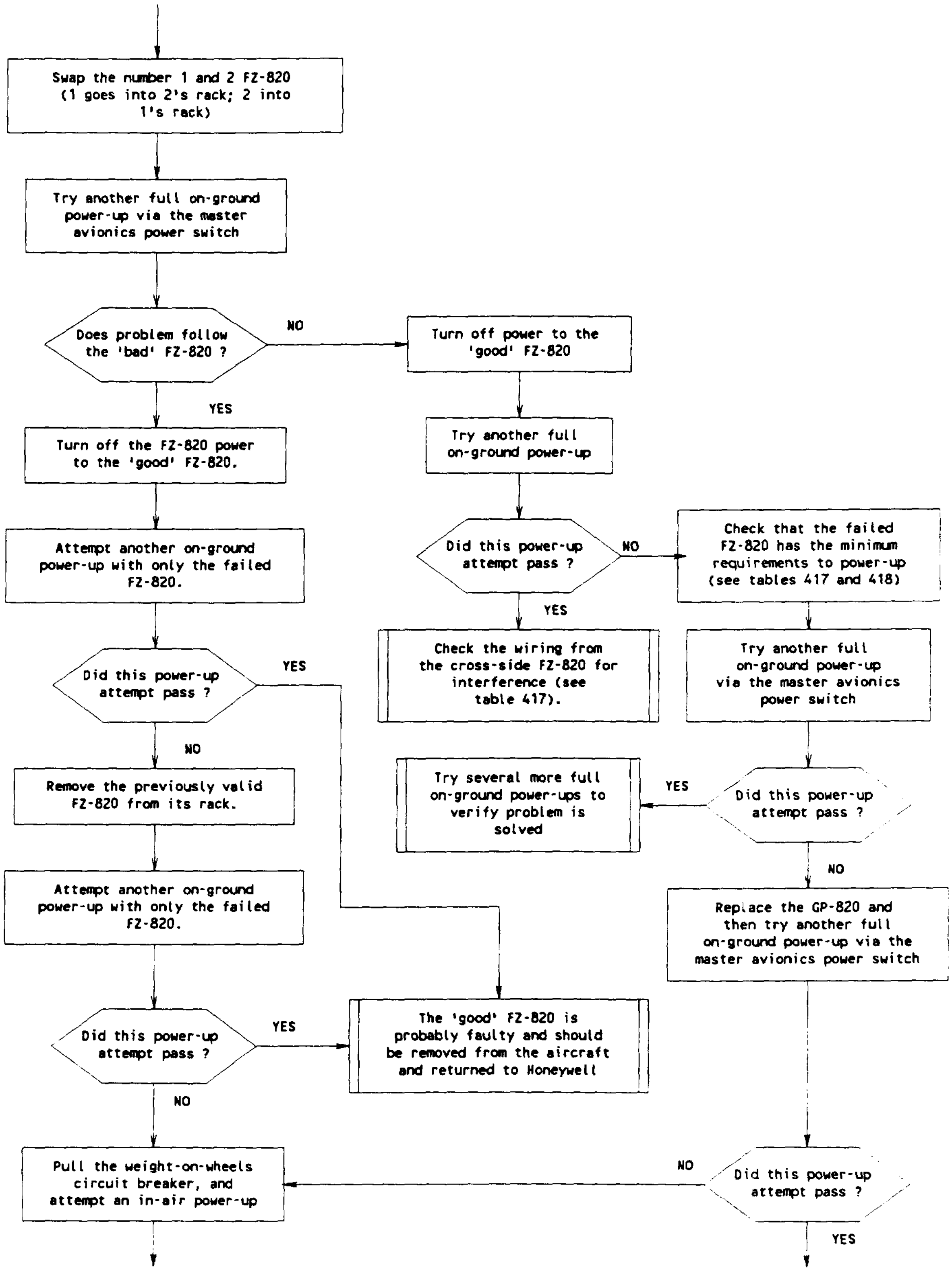
FZ-820 to elevator servo

C10J2A-55,56 to 13J2-1,2
C10J2A-61 to 13J1-11
C10J1B-69,68 to 13J2-16,17
13J1-22 to GND

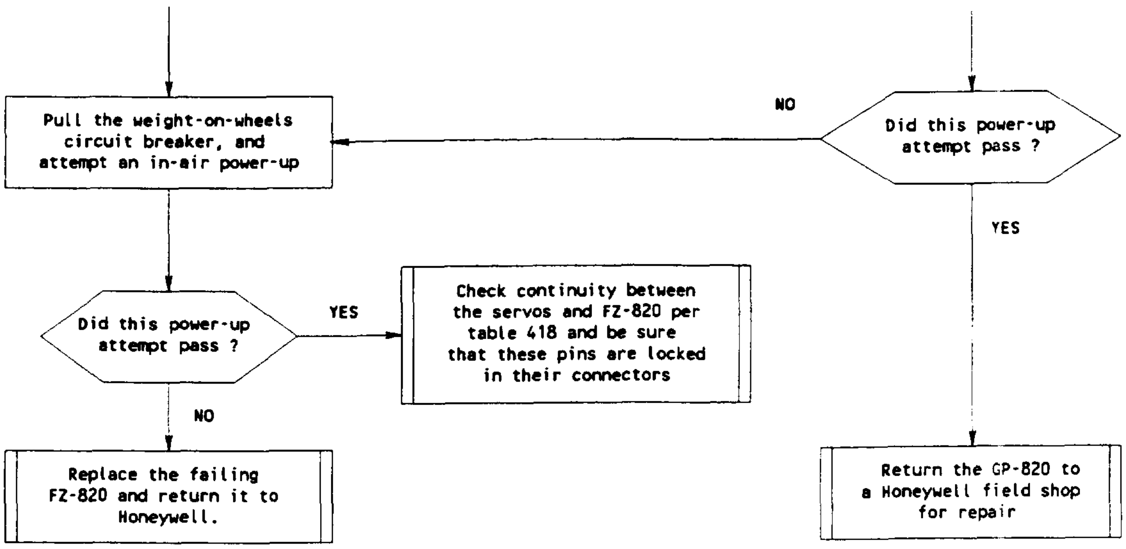
Minimum Servo Wiring Required for
FZ-820 to Successfully Power-Up
Table 418



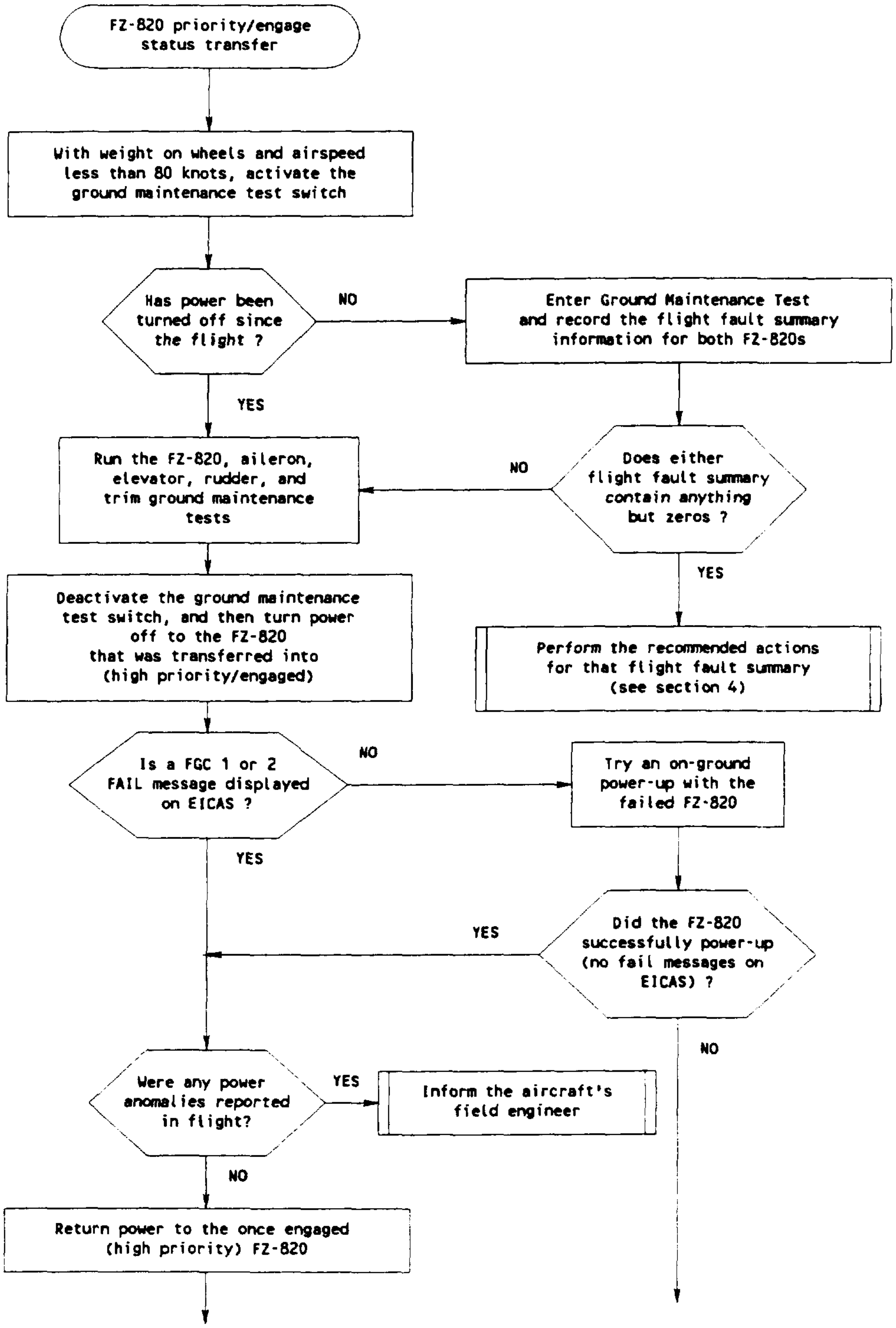
Single FZ-820 Failing Power-Up
(FGC 1 or 2 FAIL Annunciated)
Figure 412 (Sheet 1)



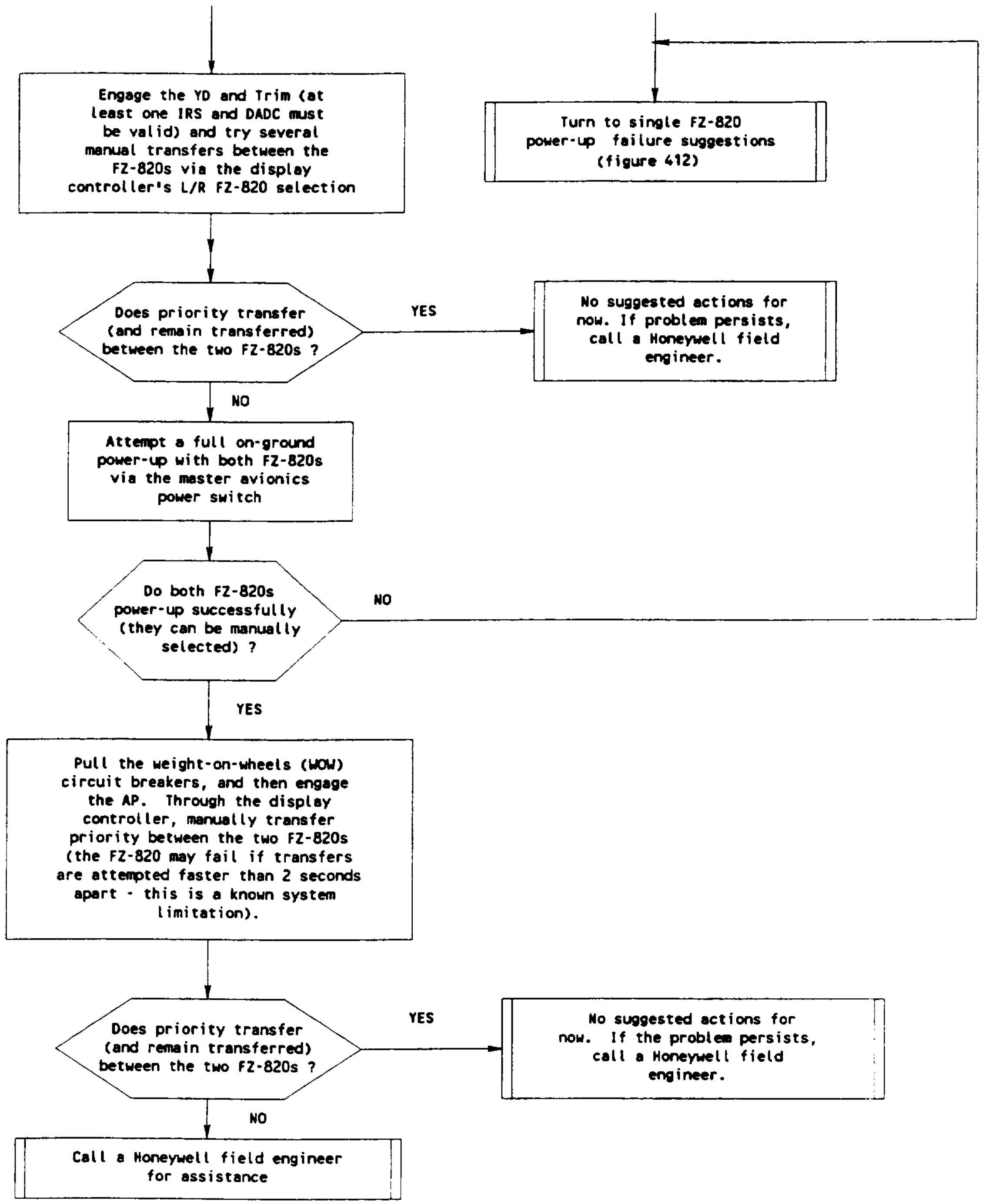
Single FZ-820 Failing Power-Up
(FGC 1 or 2 FAIL Annunciated)
Figure 412 (Sheet 2)



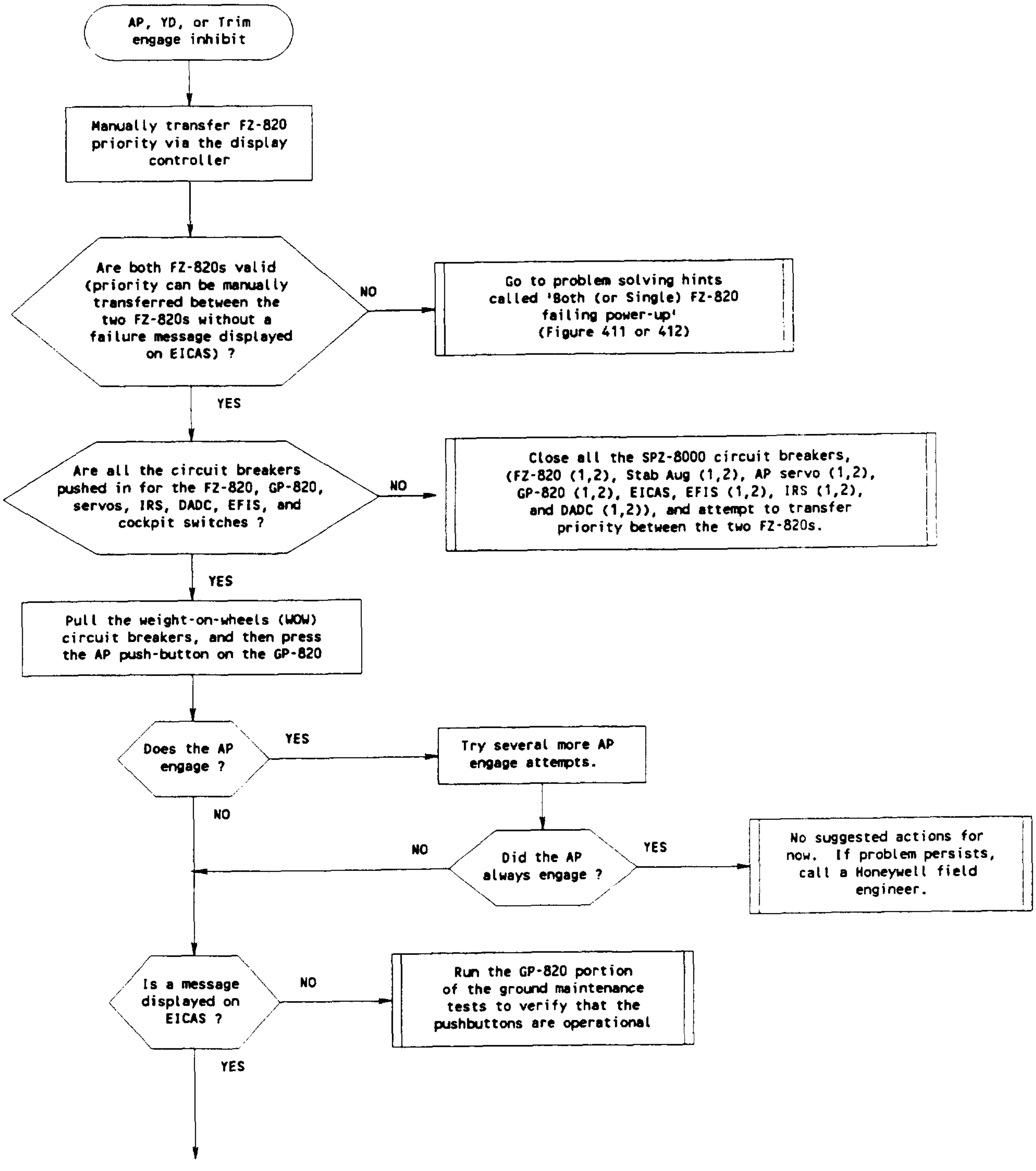
Single FZ-820 Failing Power-Up
(FGC 1 or 2 FAIL Annunciated)
Figure 412 (Sheet 3)



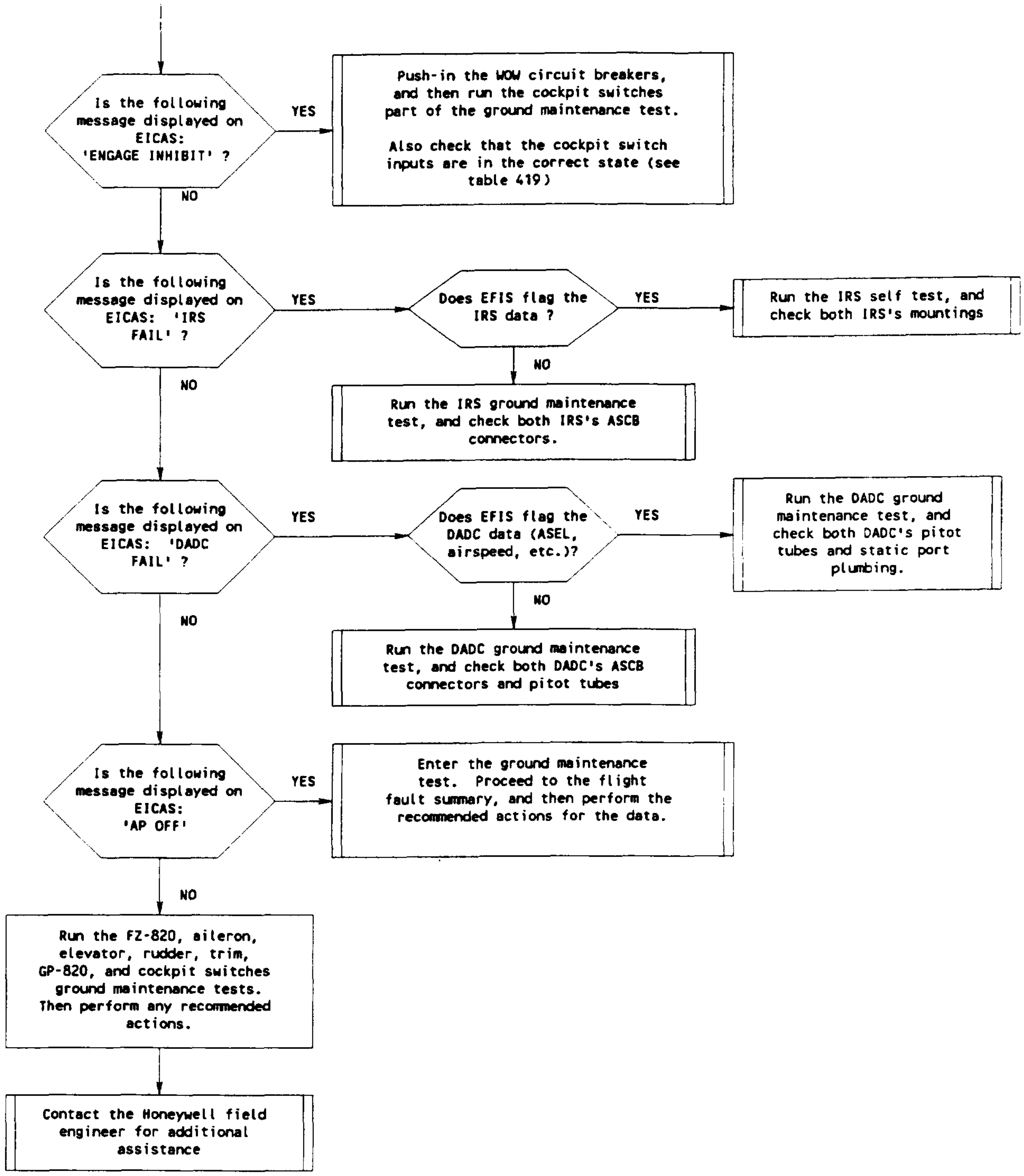
Unintended Priority Transfers
Figure 413 (Sheet 1)



Unintended Priority Transfers
Figure 413 (Sheet 2)



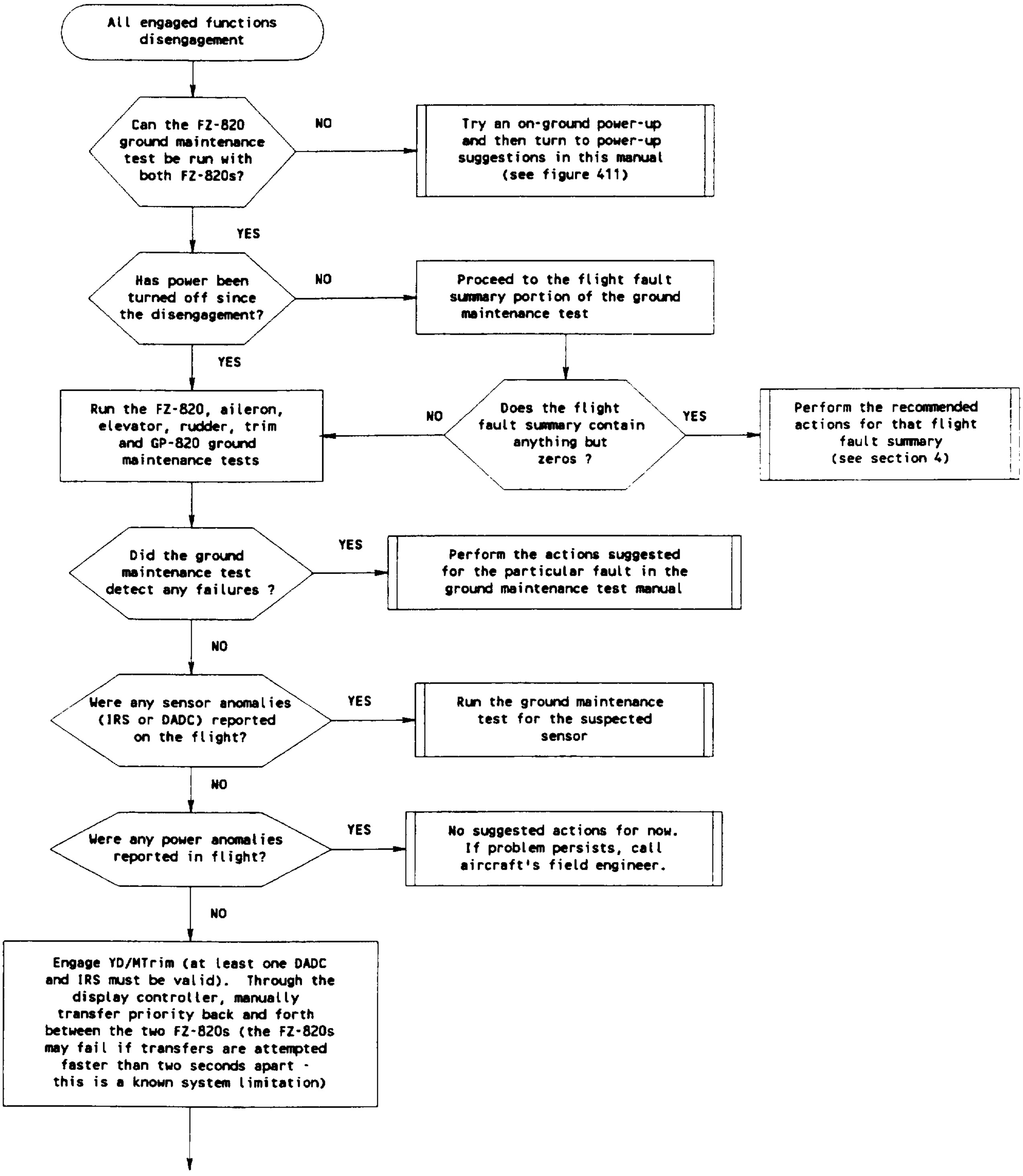
AP, YD, or Trim Engagement Inhibited
Figure 414 (Sheet 1)



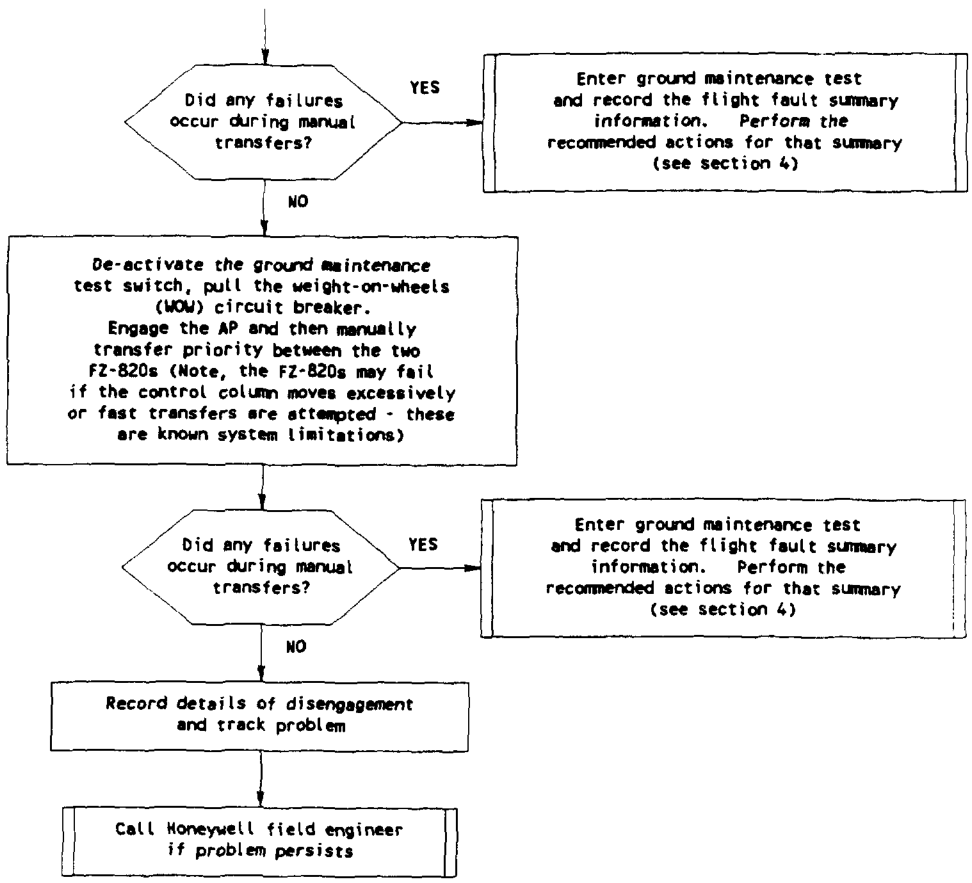
AP, YD, or Trim Engagement Inhibited
Figure 414 (Sheet 2)

Switch Function	LRU Input Pin	State
Stall warning	10J1A-28	OPEN
AP disconnect	10J2B-54, 10J2B-66, 11J1-77, 11J2-77	GND
Emergency disconnect	10J2B-65	28 V
YD disconnect	10J2B-67	GND
Go-around	11J1-72, 11J2-54	OPEN
Touch control steering	11J1-74, 11J2-53	OPEN
Turn knob active	10J2B-59, 10J2B-61	OPEN

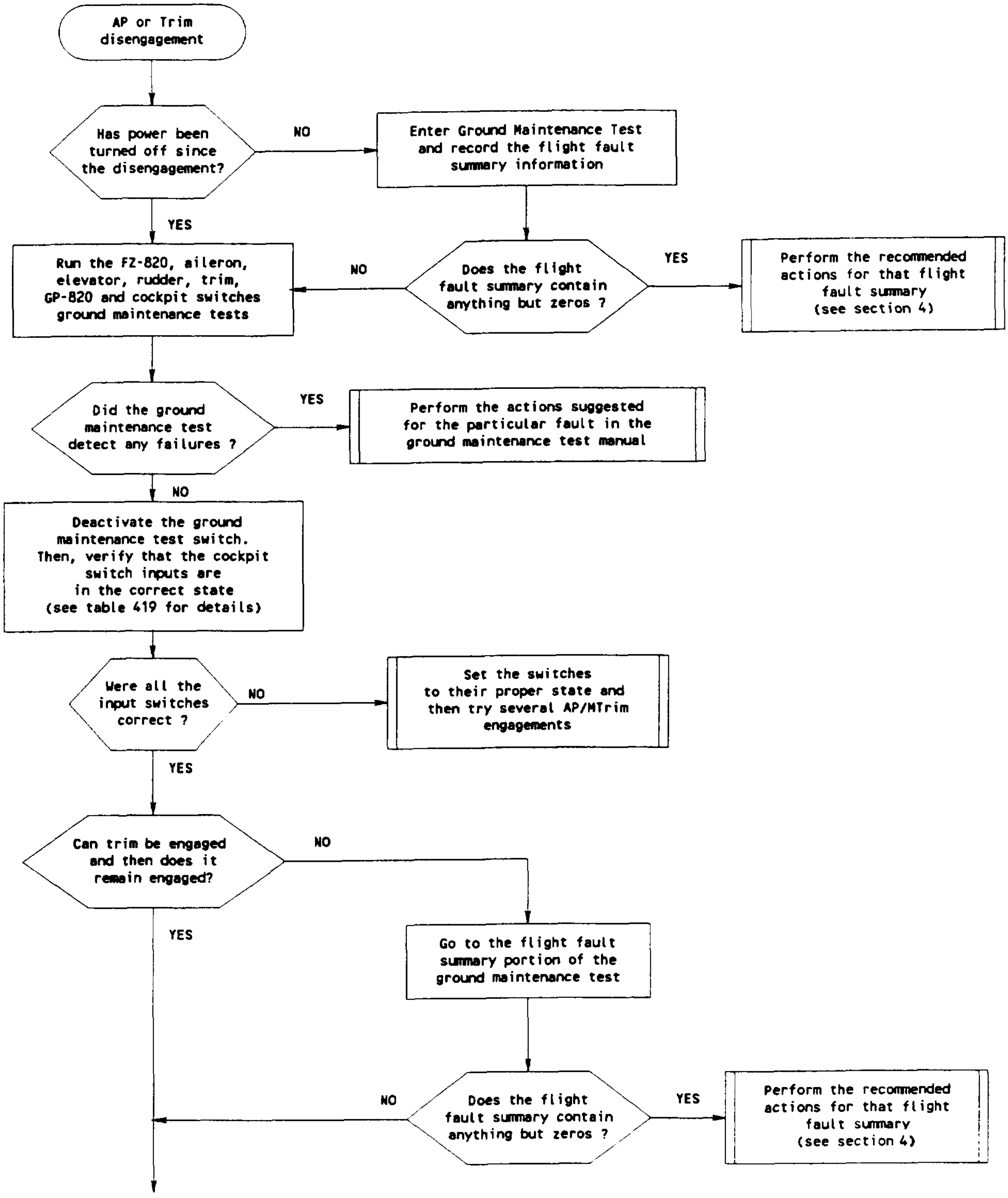
Normal Switch States
Table 419



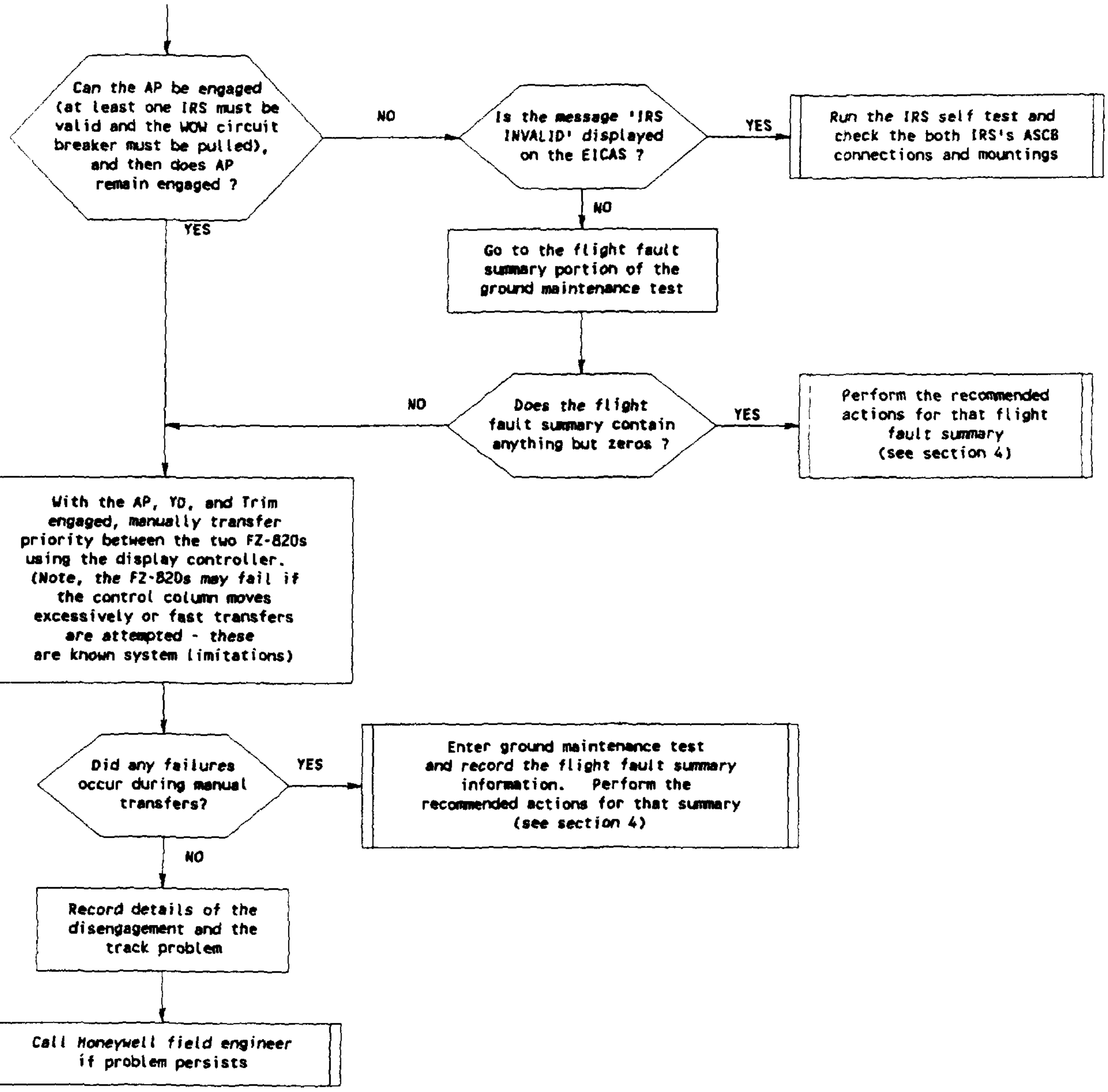
AP, YD, and Trim Disengagement
(All Engaged Functions)
Figure 415 (Sheet 1)



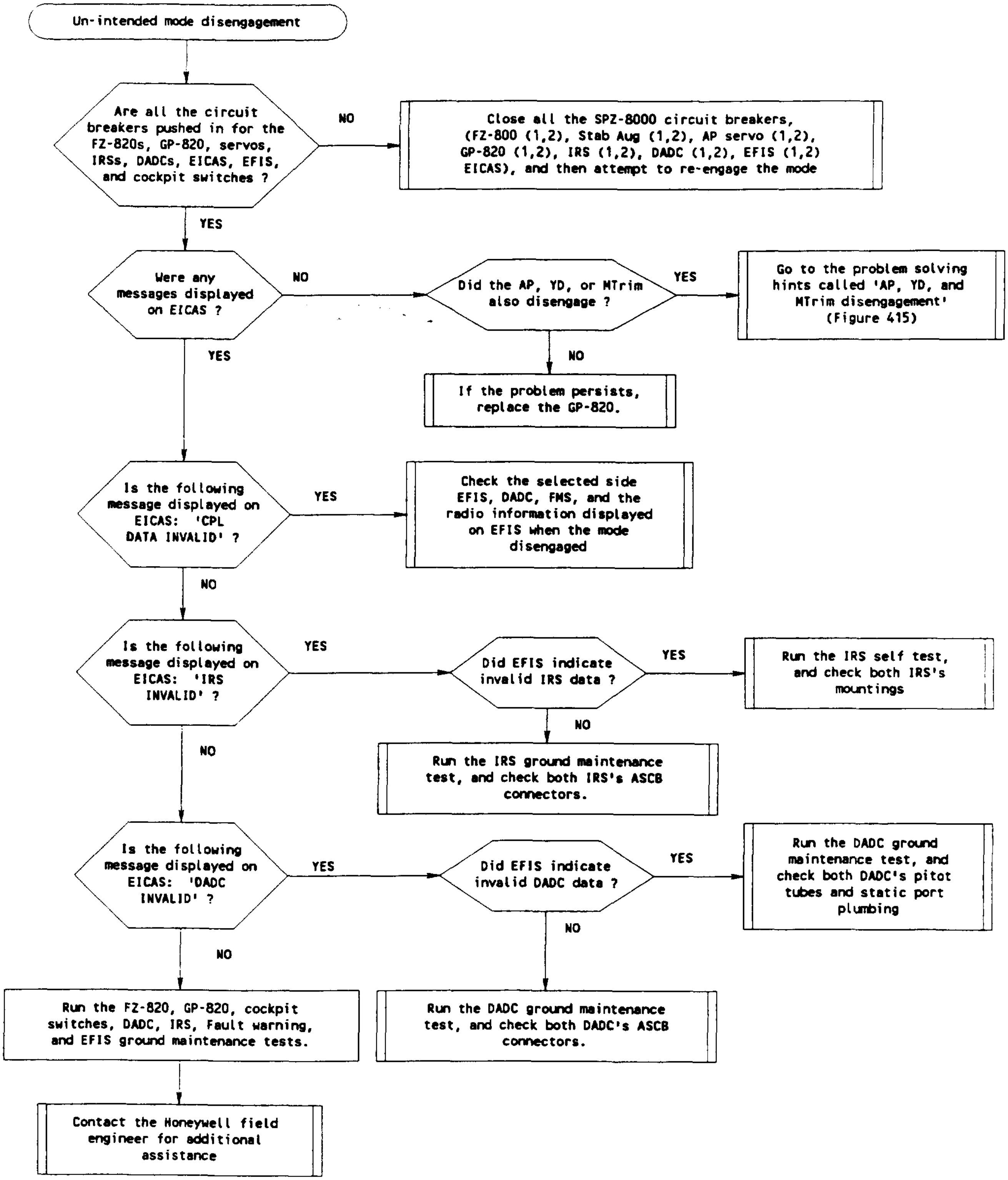
AP, YD, and Trim Disengagement
(All Engaged Functions)
Figure 415 (Sheet 2)



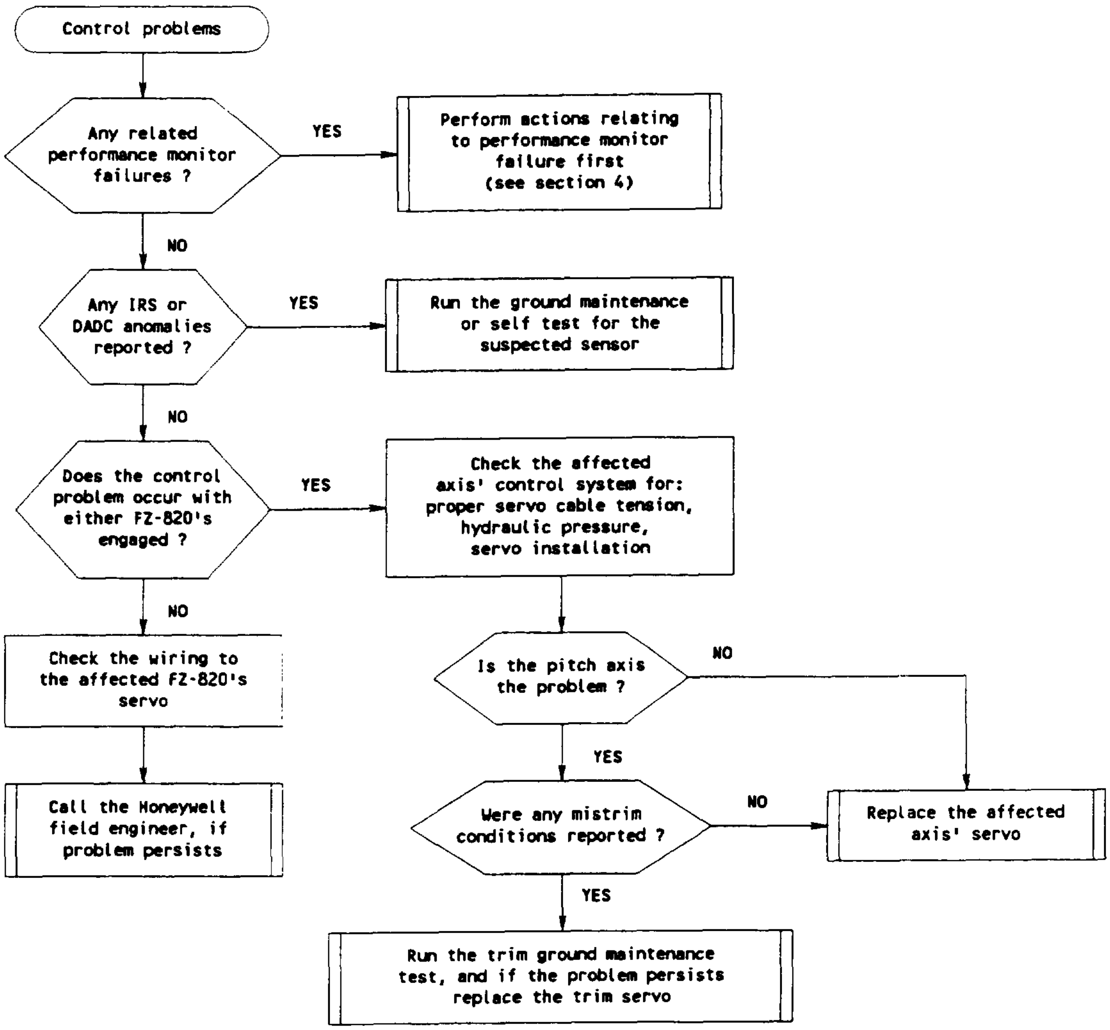
AP or Trim Disengagement
(YD is Engageable)
Figure 416 (Sheet 1)



AP or Trim Disengagement
(YD is Engageable)
Figure 416 (Sheet 2)



Unintended Mode Disengagement
Figure 417



AP, YD, or Trim Control Problems
(Oscillations, Kicks, Sluggishness, etc.)
Figure 418

8. PRIMUS® 870 Weather Radar System

The navigation display will display an amber WX in the lower left corner if no SCI data is present or when an RTA failure has occurred. This may be due to an actual bus failure or if the RTA is not powered up. When the RTA serial bus is functioning normally, the navigation display will indicate the presence of any failures detected by the RTA fault monitoring system and by displaying an amber fault code number in the tilt angle location of the display when in test mode. (Refer to Table 420.)

- Memory Reset

The RTA fault memory may be cleared by grounding a test point accessible through the connector board support prior to power-up.

ND Fault Codes NOTE 1	NOTE 2	Fault Description
None	None	No fault
01	21	Azimuth scanning incorrectly (> 2.5 degrees for > 2 seconds)
01	31	Antenna elevation error (> 2 degrees for > 2 seconds)
02	03	Analog to digital converter failure
02	22	STAB reference (< 1/2 A/D scale for > 2 seconds)
02	32	NAV computer high-speed ARINC 429 failure
03	13	+15 volts failure (> ± 1.5 Volts)
03	23	Automatic gain control failure (< -1 V or > 9.73 V for 8 seconds)
03	33	-15 volts failure (> ± 1.5 volts)
04	16	Magnetron voltage failure (< 1500 volts min or > 2700 volts max)
04	24	Mixer current failure
05	25	AFC lock failure
05	35	AFC sweep failure
06	26	Fan voltage abnormal
07	04	Digital air data failure
07	07	Pulse pair processor failure
07	14	Parallel altitude failure
07	17	EPROM test failure
07	27	VLSI test failure-loss of video ready interrupt
07	34	DADC altitude failure
07	36	Analog altitude failure - If input is > 60,000 feet
07	37	RAM test failure
07	30	Nonvolatile memory failure

NOTES: 1. Fault data for -413/414 WC-874 WX Controllers.
2. Fault data for -415/416 WC-874 WX Controllers.

Display Format
Table 420

9. FMZ-800 Flight Management System (FMS)

The following items are answers to operational questions pilots have asked. They were extracted from Honeywell FMS Technical Newsletters. All are related to the Phase II G-IV aircraft using the navigation computer with 9001 software and the performance computer with 9003 software.

A. Airborne Logic

Several FMS functions and messages become operational only when the aircraft is in flight. The FMS considers itself airborne when:

- Groundspeed is greater than 50 knots (typically occurs first)
- Airspeed is greater than 80 knots
- Weight-on-wheels switch indicates no weight on the wheels.

The opposite logic is used to determine when the aircraft lands. Thus, it is possible for a high-speed refused takeoff to be both a takeoff and landing, resetting initialization parameters and flight summary data.

B. Runway Alignment

The FMS provides for easy update of present position to the runway threshold through the RW POS prompt on the active flight plan page. The requirements for the display of this prompt are: (1) a departure runway has been activated, and (2) the aircraft is on the ground, and no higher priority prompt is being displayed. This feature can be used to update both the FMS and IRS positions to the runway threshold. Some have asked if performing this update is really necessary and, if so, under what condition. In addressing these questions, FMS updating and IRS updating are discussed in the following paragraphs.

(1) FMS Update at Takeoff

There are two situations for which you should consider performing an update to the FMS at the runway threshold:

(a) If you plan on selecting the FMS for guidance immediately following takeoff, such as when flying a SID, you should consider updating the FMS position. This will help eliminate a commanded maneuver to compensate for an error in the FMS position when coupling to the FMS. This error could be the result of inaccurate position initialization and/or prolonged ground operations in an IRS-equipped aircraft. If you do not plan on selecting the FMS until several minutes after takeoff the FMS will have begun radio updating, and any error will be automatically removed.

(b) You should also consider doing an update to the runway threshold when taking off and you do not expect to receive radio updating. This is rarely the case, but there may be airports where radio updating is not available. Radio updating requires good VOR and DME information or DME information from two different stations.

9. B. (2) IRS Runway Alignment

If the IRS mode select unit is placed in the ALIGN position prior to doing the FMS update, the IRS also receives the update. The IRS position is adjusted to the runway threshold, and IRS velocities are set to zero during this quick alignment. This quick alignment takes 30 seconds, during which the aircraft must not be moved. The mode select unit must be returned to the NAV position prior to aircraft movement. Extreme caution should be used when doing a quick runway alignment of the IRS. Failure to follow the correct procedures may result in complete loss of alignment.

Under normal circumstances, runway alignment of the IRS is of little benefit. Remember that, internal to the FMS, a correction is applied to the IRS position. Therefore, inaccuracies in the raw IRS position are of little consequence to the FMS. If an IRS is displaying several knots of groundspeed while the aircraft is stopped, you may consider doing a runway alignment. Again, use extreme caution when performing this procedure to avoid loss of alignment.

C. Estimated Time Enroute

This paragraph describes the method the NZ-9XX Navigation Computer uses to calculate estimated time enroute (ETE) for stored flight plans and the active flight plan when the PZ-800 Performance Computer is not initialized.

(1) Active Flight Plan - ETE is computed using, in order, based on validity and availability, one of the following speeds against the curve path distance:

(a) If airborne, the current TAS corrected for current wind and leg course.

(b) The average TAS of the previous five flights.

(c) The default TAS of 300 knots.

NOTE: For the predicted average groundspeed for the leg, the PZ-800 needs to be initialized.

(2) Stored Flight Plan - ETE is computed using, in order, based on validity and availability, one of the following speeds against a straight line distance, not curve path distance:

(a) The average TAS of the previous five flights.

(b) The default TAS of 300 knots.

9. C. (3) "...based on validity and availability..." means that if the listed speed is valid and greater than 10 knots, that speed is used, otherwise, the next speed in the list is used. For example, if the PZ-800 is initialized, it will provide the average groundspeed for the leg and the leg ETE will be calculated using the provided speed.

"...average TAS of the previous five flights..." has been implemented using the following algorithm:

(a) If the aircraft has just landed, the flight was longer than 15 minutes, and TAS remained valid for the entire flight, the average groundspeed for the flight just completed is set equal to the average TAS for the flight (as displayed on the Flight Summary page, line 2R).

(b) If the average of this flight's speed and the previous five-flight average is more than 20 percent greater than the previous five-flight average speed, the five-flight average speed is increased by 125 percent.

(c) If the average of this flight's speed and the previous five-flight average is more than 20 percent less than the previous five-flight average speed, the five-flight average speed is decreased by 80 percent.

(d) If the average of this flight's speed and the previous five-flight average is within 20 percent of the previous five-flight average speed, the five-flight average speed is set equal to the average of this flight's speed and the previous five-flight average.

D. Descent Time and Fuel Predictions

Gulfstream Flight Operations and several Phase II G-IV operators reported instances of incorrect aircraft performance predictions. The problem manifests itself as erroneous estimated time enroute (ETE)/estimated time of arrival (ETA) and fuel predictions at waypoints in descent. The errors can be obvious; ETAs on ACTIVE FLT PLAN can be based on groundspeeds as low as 130 knots. And PERF PLAN fuel predictions can be less on descent waypoints than at the destination. All other predictions appear normal.

The problem requires a predicted deceleration at top-of-descent and a nonpath descent. Under these conditions, subsequent mission predictions do not update on the descent legs. Thus, the effects of changing the preselector altitude, dialing a manual speed or winds different from the entered winds are ignored in descent. The problem clears with performance initialization or flight plan changes.

Selection of a cruise speed schedule (LRC, MAX SPD and MAX END) may obscure the predicted final cruise speed. However, a deceleration to the initial descent speed is unlikely with LRC or MAX END selected. A top-of-descent deceleration prediction is likely with MAX SPD or a manual cruise Mach 0.80 and higher selected.

While speed schedule changes can eliminate any occurrence, most operators will find a path descent the most convenient way to avoid the problem. Line-selecting the elevation of the destination waypoint to the CDU scratchpad, and reselecting to the waypoint will enter an altitude constraint at the destination. This results in a path descent that avoids the problem.

9. E. Stored Flight Plan Waypoints

Stored flight plan waypoints are not updated when updating the FMS navigation database. There are two properties of waypoints that must be considered. They are the name and the position. Either one or both of these properties may change in a new cycle of the database or the waypoint may even be removed from the database.

If a waypoint contained within a stored flight plan is changed during database updating, the FMS displays the message FPL CONTAINS INVALID WPT when attempting to activate the affected stored flight plan. At this point, the proper action is to SHOW the affected flight plan. The invalid waypoint will be displayed in inverse video. The invalid waypoint may be deleted or if the adjacent line select key is pressed, the WAYPOINT DEFINITION page will be displayed where the waypoint may be redefined. The action is the same regardless if the name or position of the waypoint was changed (or removed) in the database update.

F. Takeoff Vspeeds

The FMS checks takeoff initialization parameters against sensed parameters. If they do not agree the Vspeeds are inhibited, or turned off, on the PFD speed tape. The flashing is caused by the parameters alternately agreeing and then disagreeing.

The parameters that are checked include aircraft configuration and atmospheric conditions. Temperature and pressure altitude entries are checked to within 1 degree and 100 feet, respectively. These tolerances are based on the amount of change that would cause a 1-knot change in a Vspeed. If a temperature entry is made, the 1-degree comparison to sensed temperature could very well be turning on and off the Vspeed display.

It is recommended that no entry be made for temperature, pressure altitude, or baro set during normal takeoff initialization. This simplifies the initialization and allows takeoff data to be computed on current conditions. The data is automatically updated if the sensed conditions change. Entries are allowed, primarily to look at takeoffs under different conditions; for example, later in the day when it is hot,

or for tomorrow's flight. Because the sensed temperature is used by the autothrottle and engine, the temperature probe on the G-IV is aspirated. Aspiration improves the accuracy of the probe while on the ground. Aspiration is automatic on the ground after a bleed source is selected (APU or engine). Once aspiration is available, the sensed temperature should be quite accurate. Again, it is recommended that sensed values be used for takeoff calculations.

9. G. V1 Selection

A momentary power interruption can cause the takeoff V1 selection to default back to V1max. This only applies when a V1 different from the normal V1max was entered from the V1 SELECT page. V1 SELECT is accessed from the second page (Vspeeds) of T.O. DATA by line-selecting V1. The problem can occur when switching power buses after initial review of the takeoff computations.

H. Speed/Altitude Entries

Several cases of unusual speed and wind predictions were reported when operators began using the new features of the Phase II FMS. Care should be taken to ensure speed and altitude entries are made correctly.

For example, a Mach 0.80 constraint at a waypoint may be entered as .8 or .80. If just 80 (no decimal) is entered, it is interpreted as 80 knots. If 80 is entered, performance will properly limit the speed target to the computed minimum speed. This is certainly different from the expected 0.80 Mach. The decimal point is essential for entry of Mach constraints. Unusually low speed targets limited (inverse video) by performance are clues that an improper entry may have been made.

Misconceptions of the Phase II FMS capabilities may also contribute to these problems. Speed and altitude constraints are not required for the FMS to plan and control efficient climbs and descents. Often, the selected speed schedules and flight plans are sufficient to control all required speed and altitude changes. When this isn't the case, speed or altitude constraints can be entered as required. Speed and altitude constraints are automatically entered when selecting SIDs or STARs.

I. Wind/Temperature Model

The wind and temperature model of the PZ-800 offers the ability to enter forecast winds and temperatures for flight planning. Good wind information is important to accurate planning of time and fuel. Entering only the average cruise wind and ISA temperature deviation on the PERF INIT pages is sufficient for normal flight planning purposes. In flight, actual winds and temperatures are automatically blended with the forecast information to update flight planning continuously.

The wind and temperature model can also accept entries at individual waypoints. These entries should be considered if winds or temperatures are significantly different at individual waypoints. Since each waypoint wind or temperature entry is associated with an altitude, the forecast models can also be tailored to account for jetstream winds or temperature inversions.

As with speed/altitude entries, the correct format is important. For example, an altitude entry of 430 is interpreted as 430 feet, not FL430. With no other wind entries, a 20-knot wind entered at 430 feet becomes a predicted wind of 250 knots at FL430. Flight level 430 should be entered as 43000 or FL430. Future software versions will require at least four characters for an altitude entry.

Forecast wind and temperature entries on PERF INIT 4/5 affect time and fuel predictions over the entire flight, even when blending of current conditions becomes active after the aircraft is airborne. Sensed wind and temperature values do not replace the forecast entries. In other words, current sensed values are not assumed constant for the rest of the flight.

Sensed wind is applied fully to time and fuel predictions immediately in front of the aircraft only. Further along the flight plan, the effect of the sensed wind is gradually reduced. At 200 nautical miles (NM) ahead, the wind is an equal blend of sensed and forecast winds. At 400 NM ahead, the sensed wind is weighted 20 percent and the forecast wind weighted 80 percent in estimating the wind.

Sensed temperature is blended with forecast temperatures similarly, except the range of sensed temperature blending is greater. The 50/50 blending point for temperature occurs 500 NM in front of the aircraft.

Both sensed winds and temperatures are also blended with altitude for climb and descent. Beyond 10,000 feet above or below, the sensed values have no influence. This eliminates application of ground conditions to cruise predictions. Therefore, cruise predictions are not affected by sensed wind and temperature until the aircraft nears the top-of-climb (TOC).

No PERF INIT wind entry is the same as a zero-wind forecast. On short flights, the average cruise wind may reasonably approximate the sensed wind. On longer flight plans, a zero-wind forecast dominates, reducing the average cruise wind shown on PERF DATA 2/4. For example, on a 1,000 NM flight plan with no forecast wind entry, a sensed 100-knot headwind at TOC would result in a 25-knot average cruise wind. Good flight planning is dependent on accurate forecast entries.

The impact of off-forecast conditions can be examined via the WHAT-IF INIT pages without affecting the active flight plan. This can be useful to project a current wind over the remaining flight plan. WHAT-If predictions blend the current wind with the new forecast. The new

forecast can also be entered on PERF INIT 4/5 to update the active flight plan. For more generalized flight planning, STORED FPL INIT uses a constant average cruise wind and no current wind blending.

The WIND-TEMPERATURE page (accessed from the PERF PLAN pages) display waypoint blended wind and temperature, and permit entry of waypoint forecasts. The dynamic displayed value may change after entry, depending upon the sensed conditions, current altitude, and the distance to the waypoint. This is useful in reviewing the actual winds applied to the time and fuel predictions.

To summarize, wind and temperature forecasts are essential to accurate flight planning. PERF INIT average cruise wind and temperature entries are sufficient for normal flight planning purposes. Waypoint WIND/TEMPERATURE entries should be used if winds or temperatures are significantly different at individual waypoints.

9. J. Temperature Envelope

The autothrottle disengages and the automatic engine ratings blank when OAT/ISA LIMIT EXCEEDED annunciates on the CDU. This usually occurs because the outside air temperature (OAT) is less than the G-IV aircraft flight manual (AFM) minimum operating temperature. The AFM specifies a minimum temperature of -70 °C above 35,000 feet pressure altitude. The FMS does not display engine ratings outside the AFM operating envelope. However, the autothrottle can be re-engaged down to -80 °C OAT after manually selecting an engine rating on the DC-884 Display Controller.

K. Autothrottle Disengages

A problem with the flap actuator on some G-IVs can cause the sensed flap position to be slightly inaccurate. Both the FMS and the autothrottle consider the flap position input invalid when the actual flap position does not agree with the flap lever position. The autothrottle disengages, automatic speeds are not displayed, and FLAP INPUT INVALID annunciates on the CDU when this occurs. This has been seen most frequently during approach flap extensions from flaps 20 to flaps 39. Air loads on the flaps are a factor, and the problem can be intermittent.

If the emergency flap switch is OFF, and the manual flap circuit breaker closed, the problem is likely the flap actuator or flap rigging.

L. Takeoff and Landing Weight

The takeoff and landing computations of the PZ-800 are largely independent of the FMS mission calculations. However, mission weight predictions are transferred automatically to takeoff and landing, where appropriate. A problem can arise when these weights exceed the takeoff and landing weight envelopes specified in the G-IV aircraft flight manual.

For instance, the maximum ramp weight of 73,600 pounds is a legitimate mission weight. However, 73,600 exceeds the maximum takeoff weight (MTOW) of 73,200 pounds. Gross weights exceeding MTOW are not transferred automatically to takeoff initialization. The pilot can enter MTOW manually. This can be confusing to the pilot accustomed to the automatic display of takeoff weight.

Both landing and takeoff minimum weights can be encountered with lightweight aircraft. As with the G-IV aircraft flight manual, the PZ-800 is not able to compute takeoff or landing predictions for gross weights less than 45,000 pounds. While uncommon for completed G-IVs, the lack of takeoff and/or landing information can be annoying when attempting to fly very light-weight G-IVs. (Vref is computed and displayed for aircraft weights down to 40,000 pounds.)

9. M. Level Off at 10,000 Feet for Airspeed Control in G-IV Phase II Aircraft

It is very unusual to have a problem which is a result of complying with FAA rulings, but one came up on the G-IV Phase II program. You should be aware of it because it could lead to altitude violations. The problem arises when you are coupled to a VNAV path with the autothrottles engaged. The FAA required that the system had to automatically slow the aircraft to 250 knots or less prior to descending through 10,000 feet. The problem arises when the throttles are back against their aft limit but the airspeed is above 250 knots. What should the system do? Gulfstream and Honeywell stated that the aircraft should stay on path, because normally the path was established to meet an ATC crossing restriction. The FAA said, "No, the system must not violate FAR 91.70. The system should level the aircraft to dissipate the speed before descending through 10,000 feet." Gulfstream and Honeywell said that drastically decreases the chances of making the cross restriction. The Northwest Region FAA (lead region for avionics) made the final decision. They cited precedent, the FMCs on the Air Carrier aircraft level-off to dissipate the speed. Thus, the G-IV system should operate the same way.

For G-IV operators to satisfy the FAA requirement, make sure you have the speed below 250 knots before reaching 10,000 feet (use speed brakes, if necessary). If the speed is correct, you will stay on path and make the crossing restriction. If you're too fast and all the automatics are engaged, you'll do a momentary level-off at 10,000 feet. If this maneuver causes the crossing restriction to be missed, you'll get an UNABLE NEXT ALT message.

N. CDU Blanking

It is possible (and normal) for the off-side CD-810 Control Display Unit (CDU) to blank momentarily when long stored flight plans are created, changed or deleted. This is caused by the large quantity of data processed between the two navigation computers in DUAL or INITIATED TRANSFER. Phase IA software would typically disengage lateral navigation (LNAV) when the CDU blanked. LNAV remains engaged with Phase II software.

9. O. Fuel Used

FUEL USED on the FLT SUMMARY page is updated every second by adding he current fuel flow to the previous value of fuel used. When power to the navigation computer is interrupted, the fuel used calculation is suspended. When calculation resumes, the current fuel flow is assumed to be the average fuel flow during the power interruption. If the current fuel flow is significantly different from the average, fuel used will be inaccurate. The error increases with the duration of the power interruption.

P. Flight Plan Collapse

If a flight plan has a waypoint common to an airway or procedure, the flight plan automatically joins at that waypoint when the procedure is activated by name. This convenient feature can remove much of the flight plan when a standard instrument departure (SID) is selected into a flight plan with the same origin and destination. Operators commonly flying circular flight plans should delete the common waypoint from the flight plan first, then select the procedure and rejoin the discontinuity at the waypoint.

Q. EPR Bugs on Approach

The green engine pressure ratio (EPR) target bugs displayed on the center engine indicating display disappear when flaps or landing gear are lowered on approach. This is normal. Flaps and gear-down drag data is not available to accurately predict thrust required, and hence, the EPR level needed to maintain the approach speed. This does not affect the autothrottle, which is controlling to the approach speed. The bugs are displayed on takeoff and climb-out with gear and/or flaps extended since these operations are based on a defined EPR level.

R. Victor Airways

A key feature of the Phase II NZ-920 Navigation Computer is the quad density worldwide database. A problem has been discovered in accessing some Victor and all Whiskey airways by airway identifier in the NZ-920. However, individual waypoints of the airways can be entered and flown without problem.

9. S. Data Loader Fault Codes

When the CDU displays a message of CHECK DATA LOAD (XX) after an attempted disk operation, the numeric value in the XX position may be interpreted using Table 421.

01	No response to OPEN command
02	No response to STATUS command
03	Illegal database file header *
04	No response to READ command
05	Error getting 1st flight plan record
06	Flight plan record too long
07	No disk installed
08	Status command failed
09	CRC is illegal *
0A	EE size in header is bad *
0B	File size in header is bad *
0C	Database size or serial number is 0 *
0D	Database size in header is odd *
0E	Serial number is locked out *
0F	CRC lockout *
10	Bad BOW †
11	Bad fuel weight †
12	Bad cargo weight †
13	Bad number of passengers †
14	Bad initial cruise altitude †
15	Bad cruise speed †
16	Bad cruise winds †
17	Bad cruise fuel flow †
18	Bad waypoints count †
19	Too many waypoints in flight plan †
1A	Bad alternate waypoint count †
1B	Too many waypoints in alternate †
1C	Odd numbers of bytes in block *
1D	File header locked out *
1E	Error getting identifier †
1F	Error getting latitude †
20	Error getting longitude †
21	Error getting speed constraint †
22	Error getting flight level constraint †
23	Error getting spot wind †
24	Error getting spot temperature †
25	Error getting weather data †
26	Error getting first debug monitor record
27	NC DM RECORD GT 80 CHARS
28	Read file not open
29	Read attempted at EOF
2A	Command in work
2B	Unknown Op code
2C	Disk error during read
2D	Disk error during write
2E	Disk is write protected
2F	Disk is full
30	No response to WRITE command
31	No response to CLOSE command
32	STATUS command illegal
33	No response from debug monitor
34	Disk is not formatted
35	No response to FORMAT command
36	Dataloader requires update for attempted function
37	Illegal characters in read buffer
38	Read buffer overflow
39	Too many AFIS flight plans
3A	Illegal open RO file
3B	Illegal directory size

* These codes are associated with the navigation database disks. Contact local Honeywell support for assistance.

† These codes are associated with errors in flight plan format requirements. Contact flight plan provider for assistance.

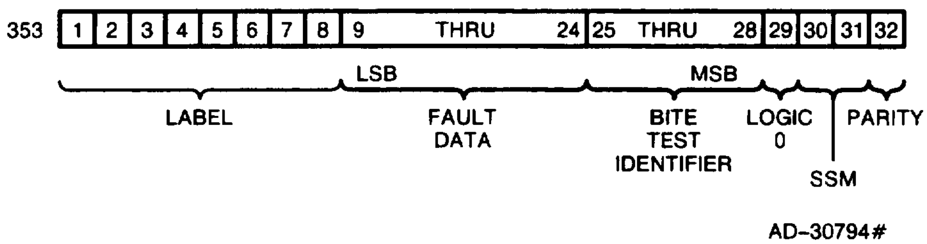
Data Loader Fault Codes
Table 421

10. Engine Pressure Ratio Transmitter

- Recording Failures Using ARINC 429 Label 353

ARINC 429 label 353 contains the result of BITE. There are four bits defining the BITE test ID, eight bits defining the current fault, and eight defining the flight fault. The flight fault contains failures which occurred since the last aircraft ground to air transition. This data will assist our repair shops in locating the cause of the failure.

Label 353 is defined as follows:



Bits	Definition	Reference
1 - 8	Label	N/A
9 - 16	Current Fault	Table 422
17 - 24	Flight Fault	Table 422
25 - 28	Bite Identifier	Table 422
29	Logic 0	N/A
30 - 31	SSM	N/A
32	Parity (odd)	N/A

It is easier to record this data in HEX since there are less numbers to record. Remember to record all bits in this word.

Bite Test	Fault Data Bit	Function	Comments
ARINC (1)	0	Total pressure on-side ADC	On-side ADC
	1	Total pressure off-side ADC	Off-side ADC
	2	CAS off-side ADC	On-side ADC
	3	CAS off-side ADC	Off-side ADC
	4	429 wraparound test	CCA A1
	5	ADC SDI test	On- or off-side ADC
	6	Unused	
	7	Unused	
EPR (2)	0	CPU test	Processor A3
	1	Watchdog timer test	Processor A3
	2	8254 interval counter test	CCA A2
	3	Scheduled activity completion test	Processor A3
	4	Stack overflow	Processor A3
	5	Unused	
	6	Unused	
	7	Unused	
MST (3)	0	Overpressure test	CCA A2
	1	EPR limit exceedance test	CCA A2
	2	Trimplug test	Trimplug setting or CCA A1
	3	Unused	
	4	EPR SDI test	EPR SDI pins or CCA A1
	5	Unused	
	6	Unused	
	7	Unused	
MEM (4)	0	RAM addressing test	Processor A3
	1	RAM read after write test	Processor A3
	2	NVM modeling coefficient sumcheck	CCA A2
	3	NVM calibration coefficient sumcheck	CCA A2
	4	ROM sumcheck	Processor A3
	5	NVM region coefficient sumcheck	CCA A2
	6	Unused	
	7	Unused	
XDCR (5)	0	Pressure time pulse raw data test	CCA A2
	1	Normalized pressure time pulse test	CCA A2
	2	Temperature time pulse raw data test	CCA A2
	3	Normalized temperature time pulse test	CCA A2
	4	Unused	
	5	Unused	
	6	Unused	
	7	Unused	

Label 353 Fault Codes for AC03 and BC03
Table 422

SECTION 6
INTERCONNECTS

This section provides interconnect information for the SPZ-8000 System (Table 501) as an aid in troubleshooting the System should any failure occur during GROUND CHECK.

NOTICE

Procedures in Table 501 are based on Engineering Bulletin EB7010494, Rev P.

Table 501 is not intended to be used for initial installation of optional systems. Any installation information listed in the Appendices is for reference only.

Table 501 - Table of Contents

Pilot's Unit Connector Designation No.	Unit Name	Page
65	Symbol Generator No. 1	562
115	Display Controller No. 1	568
120	Control Display Unit No. 1	572
121	Navigation Computer No. 1	574
122	Performance Computer No. 1	581
123	Data Loader	588
L128	Autothrottle Servo No. 1	589
R128	Autothrottle Servo No. 2	590
129	Manual Controller	591
130	Display Unit No. 1	592
131	Display Unit No. 2	596
132	Display Unit No. 3	598.2
133	Display Unit No. 4	598.6
134	Fault Warning Computer No. 1	598.10
135	Display Brightness Panel	598.19
136	Data Acquisition Unit No. 1	598.20
137	Data Acquisition Unit No. 2	598.29
149	Global Positioning System Sensor Unit No. 1 (Optional)	598.38
170	Inertial Reference Unit No. 1	598.38.1
171	Inertial System Display Unit (Optional)	598.38.6
172	Mode Select Unit	598.38.9
198	Navigation Display Unit (Optional)	598.38.12

Interconnect Information
Table 501 (cont)

Interconnect Information
Table 501 (cont)

Interconnect Information
Table 501 (cont)

1. Introduction

This Table contains system component interconnection information and lighting, power, interlock, and switching schematics.

2. List of Figures Incorporated in this Table.

Interconnect Information
Table 501 (cont)

Interconnect Information
Table 501 (cont)

Interconnect Information
Table 501 (cont)

3.0 ELECTRICAL INSTALLATION DESIGN

3.1 Power Requirements

3.1.1 AC Power - The aircraft ac power inverters must supply single phase 115 volts (min 104, max 122) 400 Hz ±20 Hz sine wave with a maximum total harmonic distortion of 5% and 26 volts (min 23.5, max 27.5) 400 Hz ±20 Hz sine wave with a maximum total harmonic distortion of 5%. Under all load conditions, amplitude modulation of the power supply shall not exceed 2 percent at any frequency. (Percent modulation is defined as one-half of the peak to peak modulation envelope divided by the carrier amplitude and multiplied by 100.) With its load rating, the power supply's output impedance shall be less than .3 ohm for sinusoidal load variations at all frequencies below 10 Hz.

3.1.2 DC Power - The aircraft dc power supply must be 28 Vdc (nominal). The normal minimum and maximum allowable voltages are 22.0 and 29.5 Vdc respectively (DO-160 CAT A).

3.1.3 Power Distribution - See Figures 3-1 thru 3-4 for independent subsystem power requirements.

3.1.4 Power Supplied to LRU's - The voltage level of the power supplied to the LRU's is important in this installation. The potential is the difference between the power pins and power ground pins at the LRU. Excessive voltage drops in the power wire(s) and power ground wire(s) may cause one or more of the following conditions:

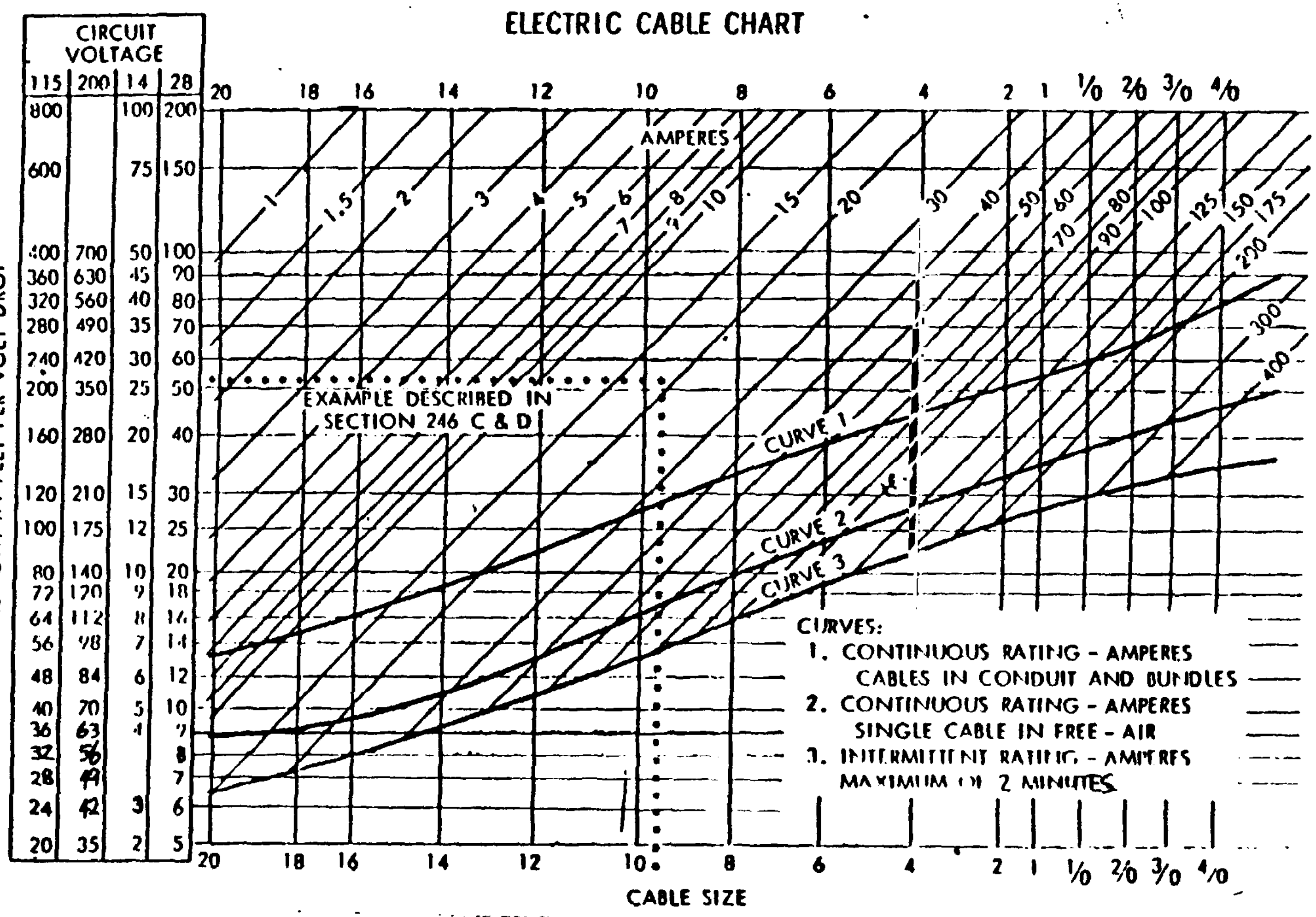
a. LRU to draw additional current from the aircraft supply system.

b. Since the LRU is drawing more current, they produce more heat, more heat causes lower LRU MTBF's.

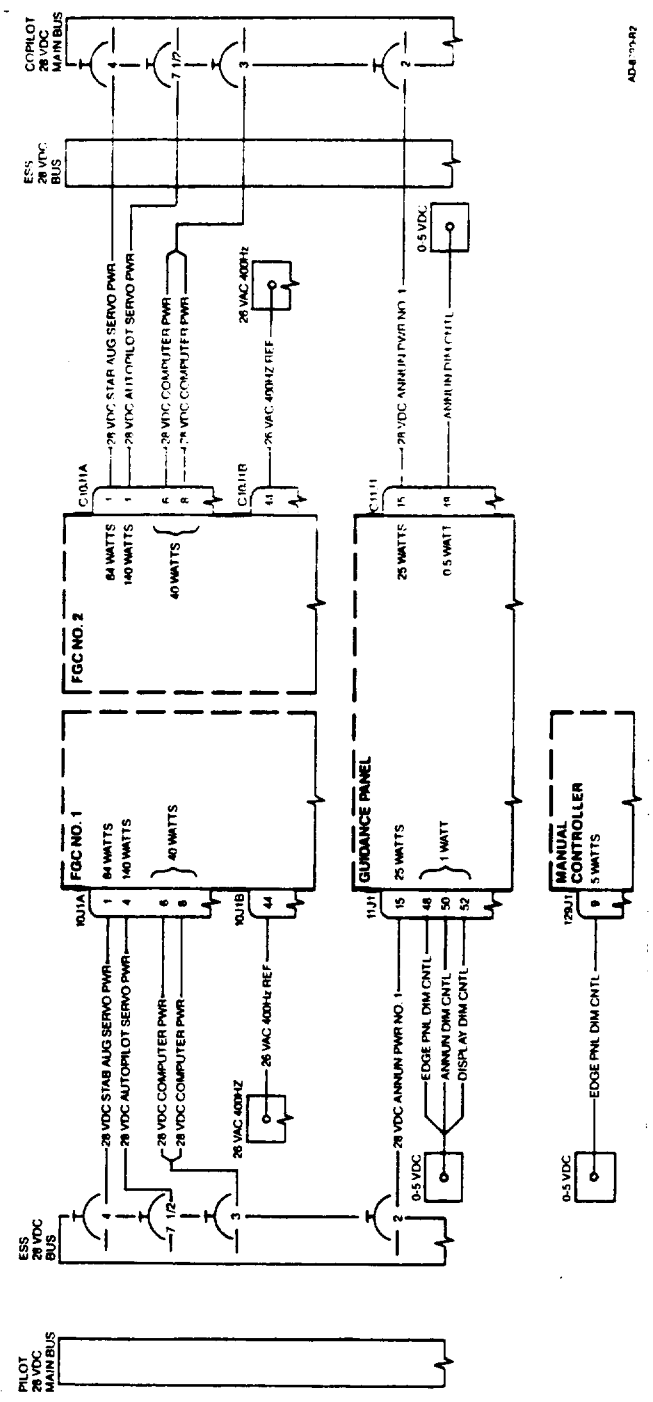
c. LRU shutdowns, even though the aircraft supply system voltages are within normal minimum and maximum levels.

Therefore, the recommended maximum total combined voltage drop (voltage drop of the power wire(s) plus voltage drop of the power ground wire(s)) is 1.0 volt. Voltage drop is a function of current and resistance (Resistance in this case is a function of wire gauge and wire length). See Chart 3-1 for determining proper wire gauge for LRU power and power ground wires.

Chart 3-1

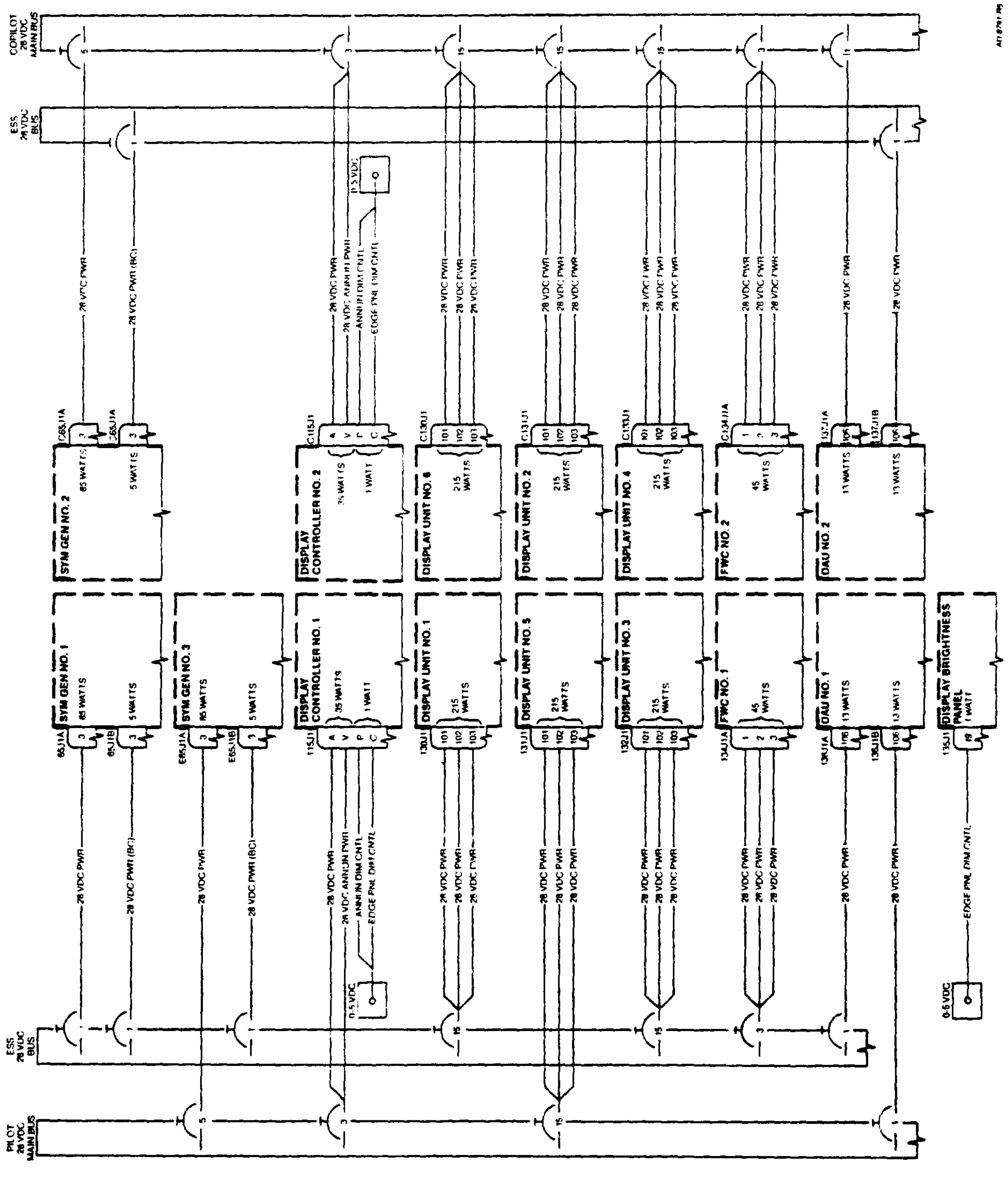


Interconnect Information
Table 501 (cont)



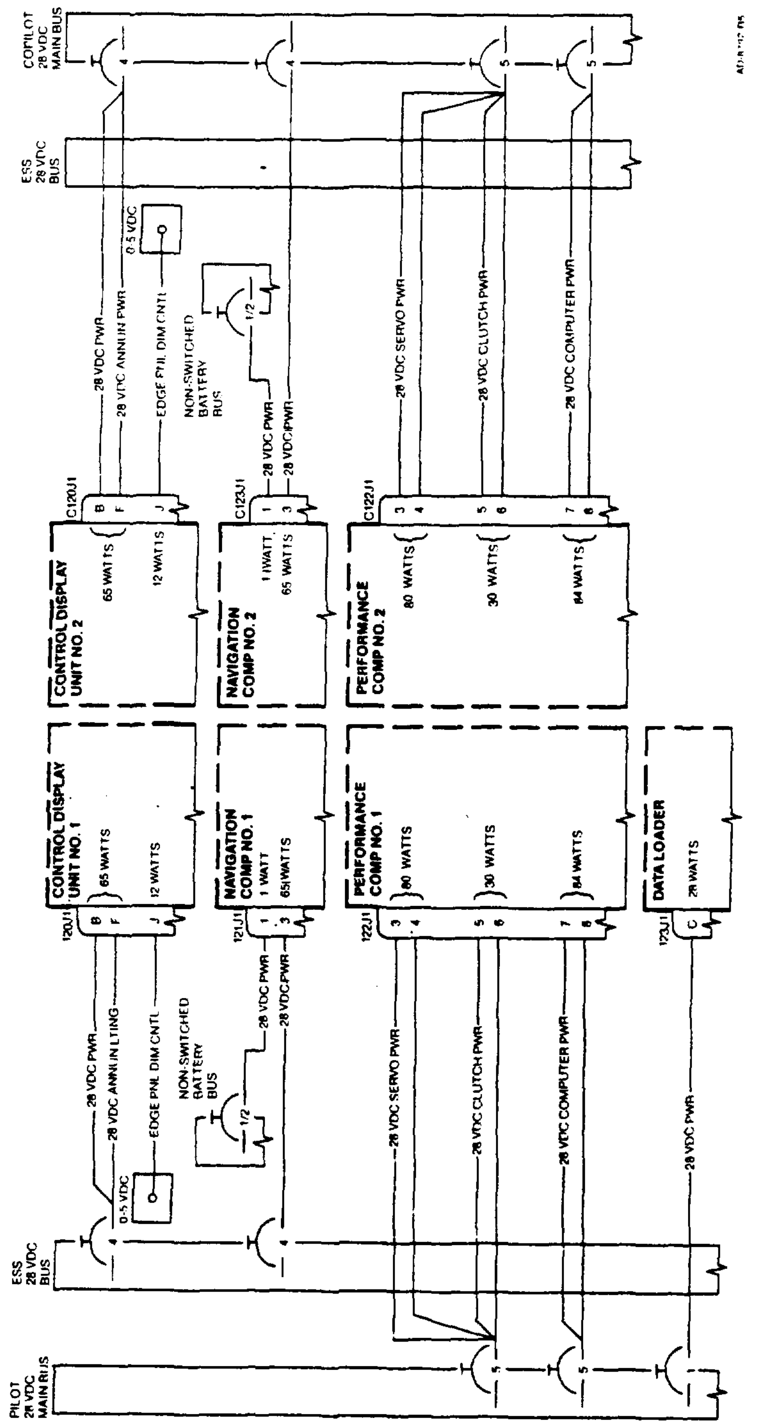
Automatic Flight Guidance Control System
Power Distribution
Figure 3-1

Interconnect Information
Table 501 (cont)



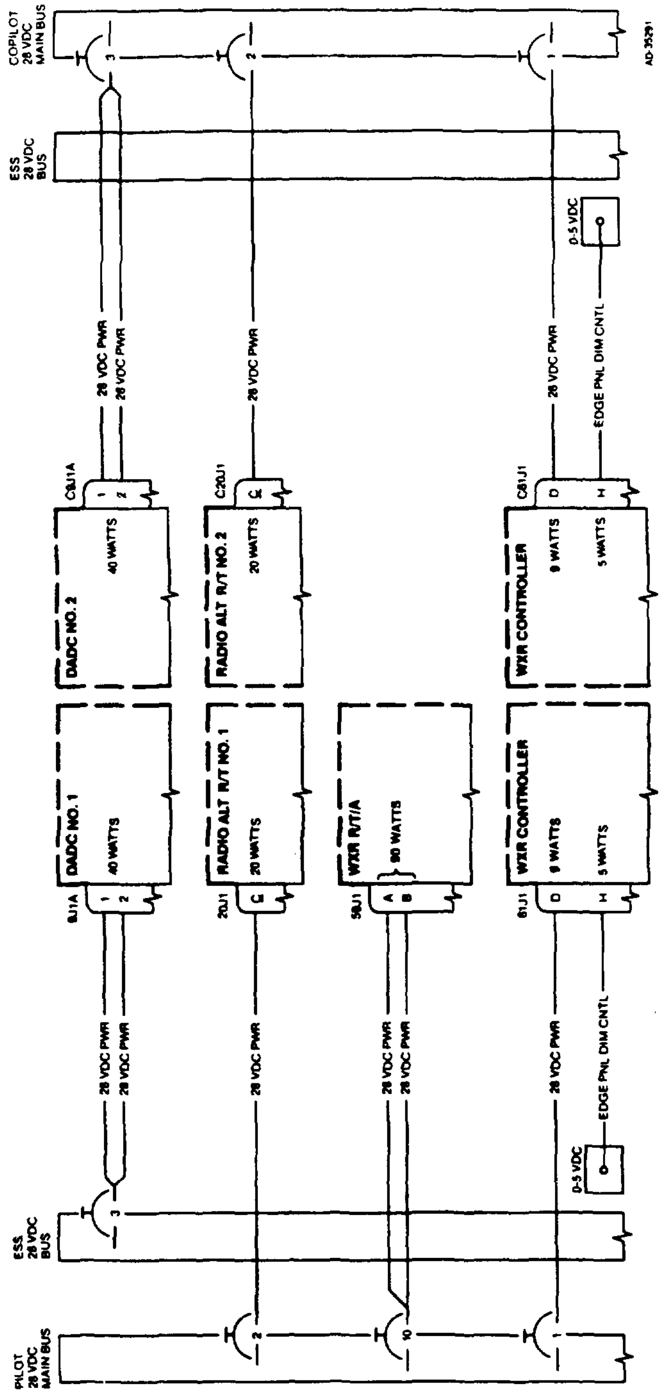
Electronic Display System
Power Distribution
Figure 3-2

Interconnect Information
Table 501 (cont)



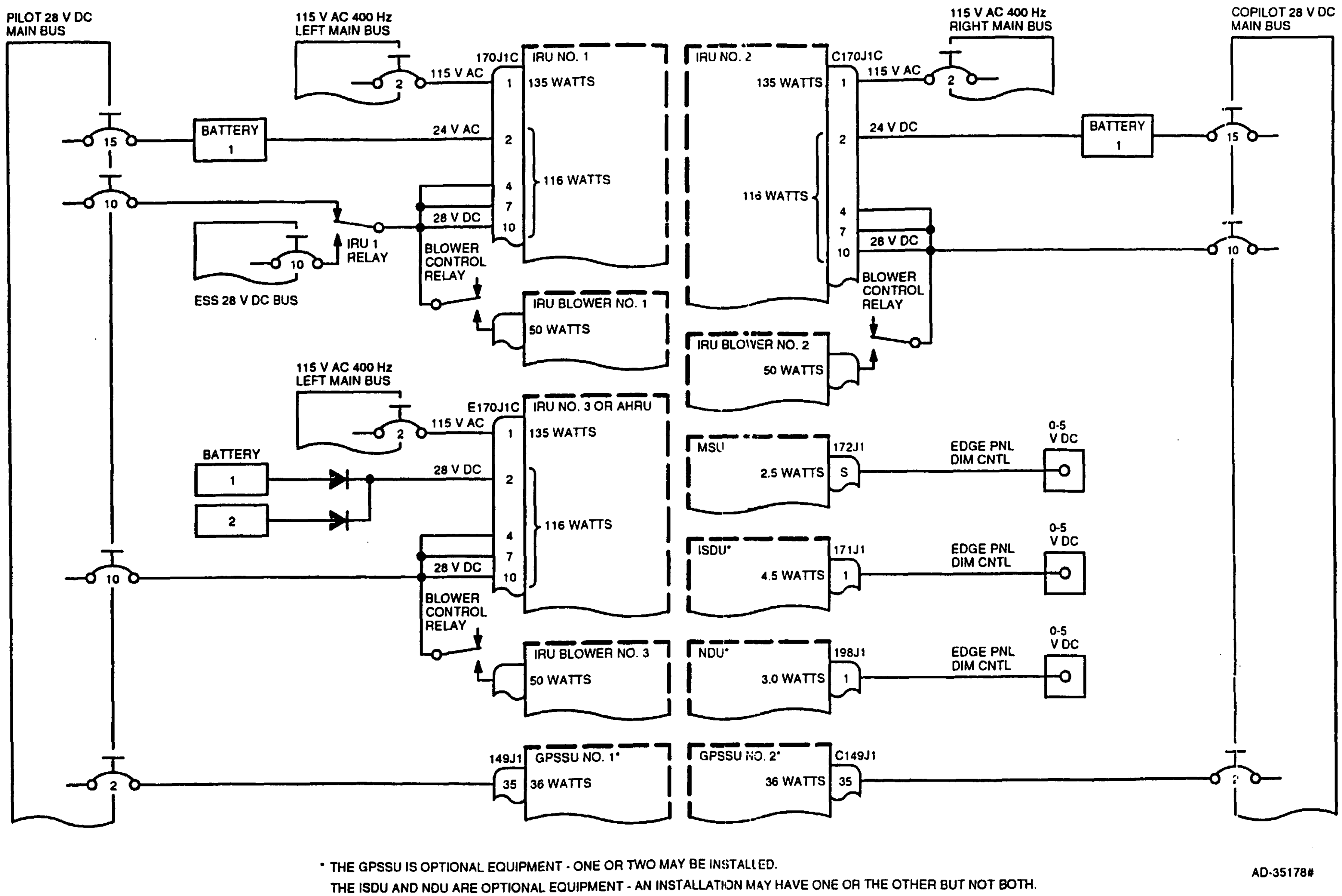
Flight Management Computer System
Power Distribution
Figure 3-3

Interconnect Information
Table 501 (cont)



Misc. Sensors
Power Distribution
Figure 3-4

Interconnect Information
Table 501 (cont)



Inertial Reference System
Power Distribution
Figure 3-5

Interconnect Information
Table 501 (cont)

3.2 Grounding Requirements

Good grounds are a key factor in a good installation. Each ground should be run as a separate wire and terminated at one central point. The following special requirements shall be met.

a. Chassis ground shall be terminated to the frame of the aircraft with minimum wire length from the mating connector.

b. All shielded wires shall have the shields tied at one end only to the aircraft frame or central ground point except where noted. Either end of the shielded pair may be terminated to the airframe ground except where explicit shielding terminations are given.

c. Grounds should be grouped by function; that is: AC grounds on one group of terminal blocks, DC grounds on another group, and Signal grounds on another group. The DC power ground is for high current DC returns, AC ground is for high current AC returns, and signal ground is for DC and AC signal references. All terminal block grounds are attached to the airframe at one central location.

d. Servo Power Grounds 10J1A-5, C10J1A-5, 12J1-10, 12J2-10, 13J1-10 and 13J2-10 shall be terminated at a common point which is also tied to aircraft ground.

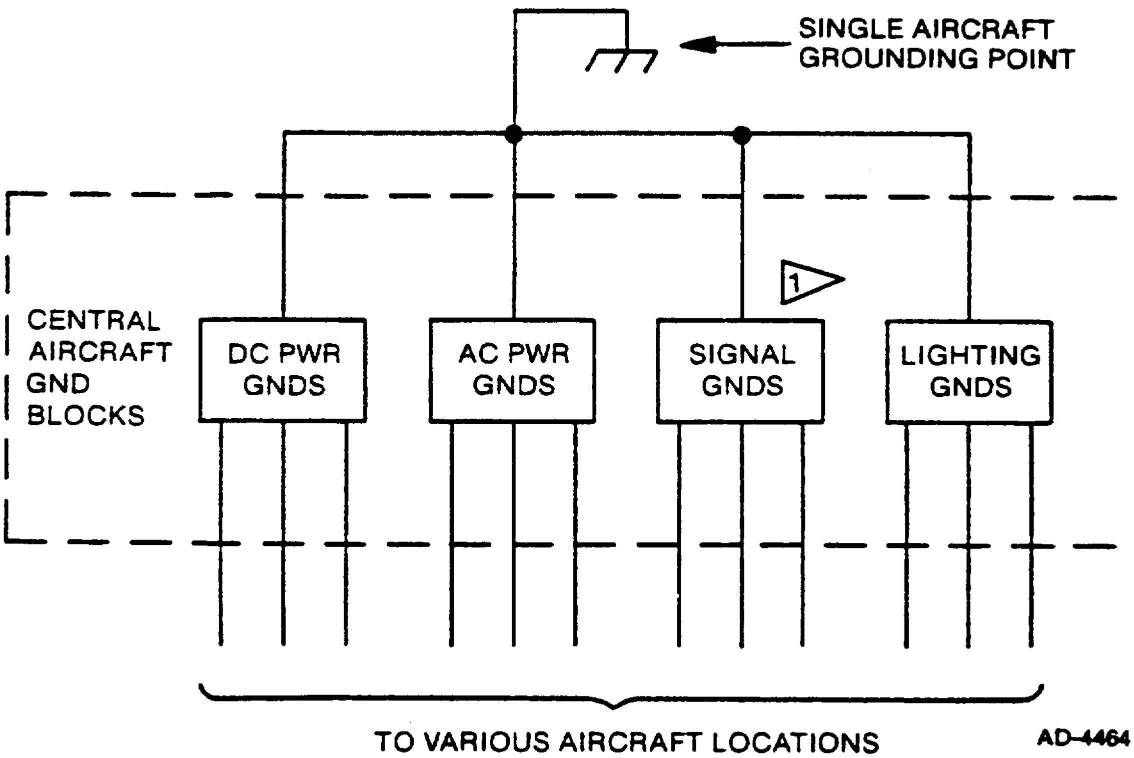
e. Trim Servo Power Grounds 29J1-10, 29J2-10, 10J1A-2 and C10J1A-2 shall be terminated at a common point which is also tied to Aircraft Ground.

f. All AC grounds shall be tied together, all DC grounds shall be tied together and all signal grounds shall be tied together. All AC, DC and signal grounds shall be tied together at a single point and connected to the airframe.

Interconnect Information
Table 501 (cont)

3.2 Grounding Requirements (cont)

It is very important that this grounding technique be adhered to. Do not tie the various ground wires to multiple aircraft frame points and depend on the aircraft structure itself to provide a low impedance path for the individual grounds. ONLY chassis grounds and shield grounds are grounded at multiple points in the aircraft.



1 Because signal grounds are low currents, multiple signal grounds can be connected to remote aircraft terminal blocks other than the central grounding blocks as long as these remote terminal blocks are isolated from ground. The various remote signal ground blocks must all be grounded only at the aircraft central grounding point. For example, if ten signal grounds are connected to a remote terminal block, a minimum of one grounding wire must be run from this terminal block to the aircraft central ground point.

3.3 Avionics Standard Communication Bus (ASCB) Installation For The G-IV

The ASCB is the primary communication path between major subsystems of the SPZ-8000 Integrated Avionics System. Physically, it consists of two multi-point serial synchronous digital communications networks, each electrically isolated from the other, and each capable of maintaining full inter-system communication in the event of a failure on the other. The ASCB complies with RTCA Document DO-160A which requires that the following installation requirements be met:

a. There are two independent ASCB's denoted "A" and "B", each consisting of one wire pair.

b. The ASCB transmission lines shall be Raychem 2524E0114 with a thermorad jacket or its equivalent.

c. Each ASCB transmission line pair shall have a characteristic impedance of 125 ohms ± 5 ohms. The characteristic capacitance shall be 12 ± 2 picofarads/foot.

d. Each ASCB transmission line pair shall be terminated at its two ends with non-inductive 127 ohm resistors ± 1%, 1/4 watt, metal film. The cable length between the last stub and the termination resistor shall be 24 inches.

e. The ASCB transmission lines shall have a maximum length between terminators of 150 feet.

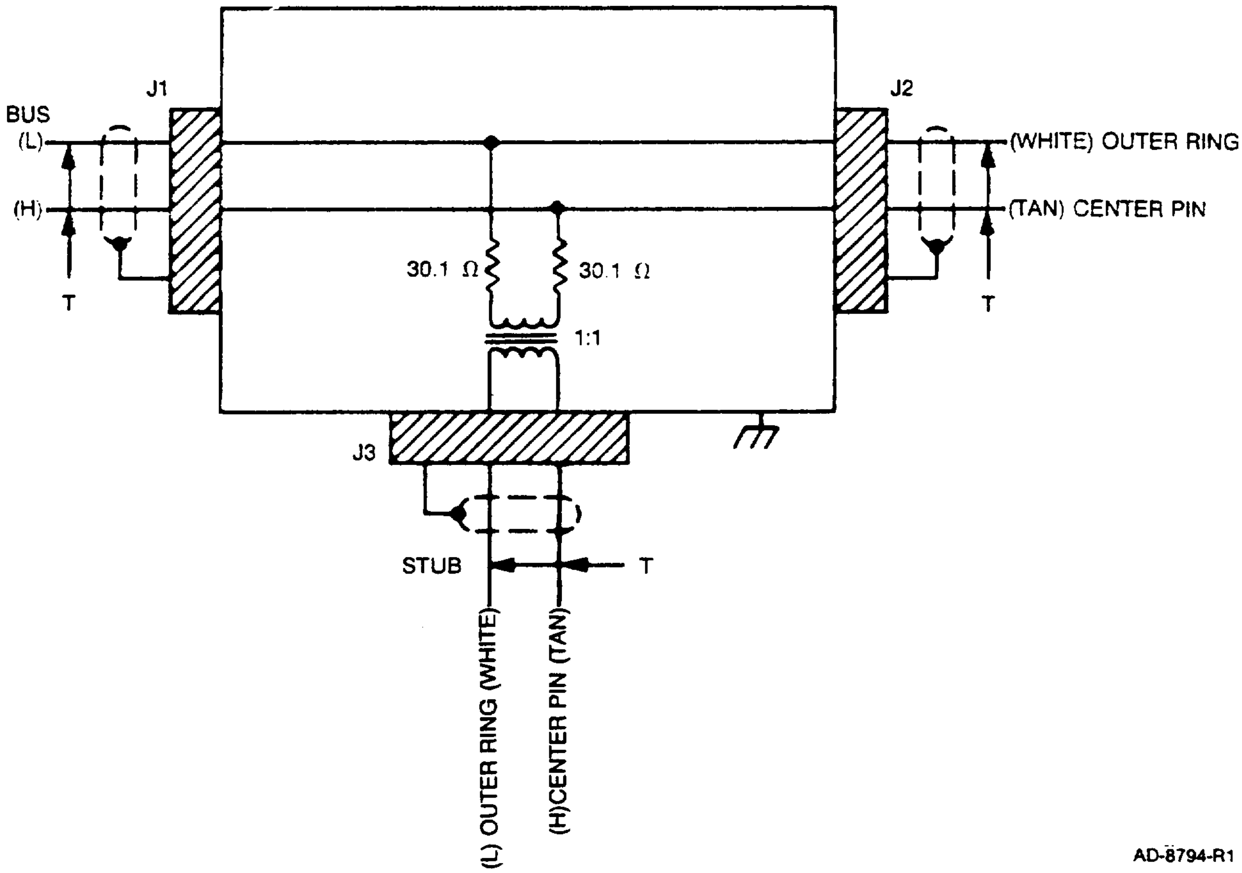
f. Stub lengths at each user pickoff shall not exceed 36 inches. Stub connections to the main bus shall be accomplished via bus couplers configured as illustrated in Figure 3-7.

g. The shield connections at each stub shall be accomplished via the bus coupler.

h. All bus couplers shall be electrically bonded to the aircraft structure.

i. The ASCB transmission lines shall be connected in a daisy chain fashion between user subsystem.

Interconnect Information
Table 501 (cont)



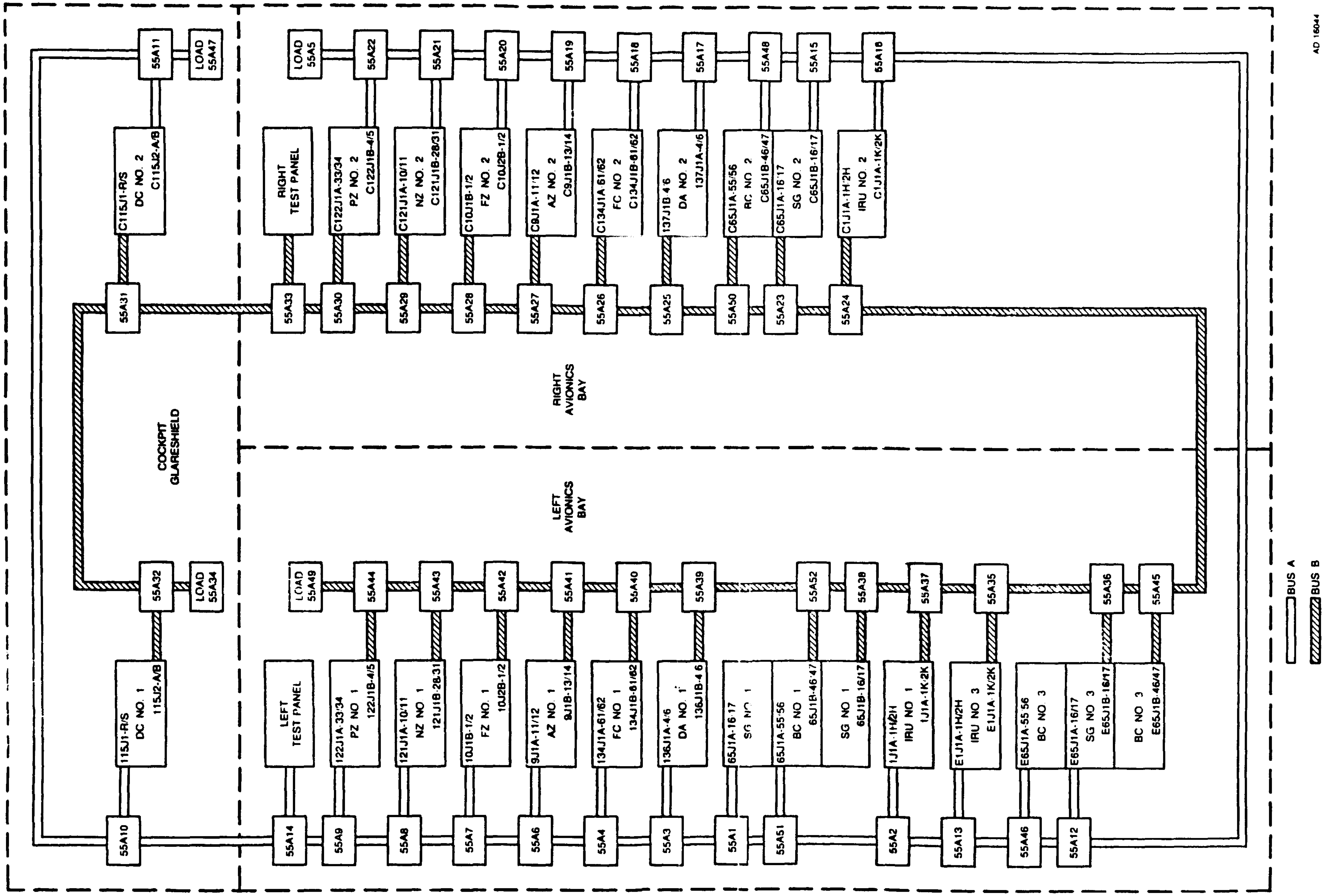
ASCB Bus Coupler
Figure 3-7

Interconnect Information
Table 501 (cont)

3.3.1 Avionics Standard Communication Bus Interconnect Installation

See Figure 3-8 for ASCB Interconnect.

Interconnect Information
Table 501 (cont)



G-IV ASCB Interconnect
Figure 3-8

Interconnect Information
Table 501 (cont)

3.4 Interconnect Format Definition

Each connection is typically shown as indicated in the figure below.

```
 △1   △2               △3        △4     △5          △6
  IOB   DESCRIPTION     FROM PIN   AWG   TO PIN(S)    COMMENTS
   P

  (O)  SERVO DRIVE H  29AJ1-1  (22)-------29J1-2
  (O)              L  29AJ1-2  (22)-------29J1-1
```

△1 I = INPUT
O = OUTPUT
B = BUS
P = POWER

△2 DESCRIPTION OF SIGNAL FUNCTION

△3 FROM CONNECTION

```
                  XX AJ1 -XX
UNIT -------------┘   |    |
DESIGNATOR -----------┘    |
CONNECTOR -----------------┘
PIN
```

△4 WIRE GAUGE SIZE

△5 TO CONNECTION

```
                         XX J1 -XX
UNIT DESIGNATION --------┘  |   |
CONNECTOR ------------------┘   |
PIN ----------------------------┘
```

△6 MISC. COMMENTS

Interconnect Information
Table 501 (cont)

3.5 Interconnect Requirements

3.5.1 Interlocks - The SPZ-8000 Integrated Avionics System utilizes electrical and mechanical engage interlocks.

- The electrical interlocks consist of program pins on the unit's mating connector that electrically determine how a unit shall function.
- The mechanical interlocks are mechanically keyed connectors that prevent units from being incorrectly connected or from being installed.

3.5.2 Maintenance Test - An external switch located in the avionics rack is required to enable the Maintenance Test by providing a ground on the appropriate pin of each LRU. Maintenance test will also be interlocked with Weight-on-Wheels to ensure against activation during flight.

3.5.3 Inertial Reference System

NOTICE

CRITICAL ITEMS
COMPLIANCE REQUIRED

TO ASSURE THE IRS MISCOMPARE WIRING IS CORRECT. THIS WIRING SHOULD BE 100% CONTINUITY CHECKED. THIS IS TO INSURE PROPER AUTOPILOT VOTING OF IRS DATA. THE WIRES THAT ARE CRITICAL: IRU #3 J1A-E6 MUST GO TO FGC #1 AND #2 J1B-95. IRU #3 J1A-E7 MUST GO TO FGC #1 AND #2 J1B-96. THIS WIRING IS ALSO NOTED IN THE INTERCONNECT SECTION OF THIS DOCUMENT.

3.5.4 Weather Radar System - Cable runs shall be limited to less than 50 feet.

EFIS control and picture bus connections shall be made using twisted, shielded pair having a characteristic impedance of 70 ohms ±10%.

Chassis ground to aircraft ground connections shall be made using 20 AWG stranded wire. Resistance between these two connections shall be <0.1 ohm.

4.0 ELECTRICAL INTERCONNECT DEFINITION

This section provides the electrical interconnect definition for the SPZ-8000 Digital Integrated Flight Guidance System as it is installed in the G-IV.

This interconnect is ordered per unit connector designation numbers. Reference Table 1-1 for these numbers.

<u>NOTES</u>:

1 THIS PIN IS PROVIDED TO ALLOW THE USE OF A LOCAL GROUND FOR PROGRAMMING PINS IN ORDER TO REDUCE WIRE LENGTHS. THIS PIN SHOULD NOT BE TIED TO ANY AIRCRAFT GROUND.

2 ASSIGN AIRCRAFT J-BOX TERMINAL FOR EACH WIRE TO BE USED FOR INSERTING FLIGHT TEST SIGNALS VIA THE FTIU.

3 SEE PARA. 3.1.4 FOR DETERMINING PROPER WIRE GAUGE.

4 AN ASTERISK SYMBOL (*) AFTER A FUNCTION NAME MEANS THAT FUNCTION IS ENABLED WITH A SIGNAL GROUND.

5 A DIODE IS NEEDED TO BE PLACED IN PARALLEL WITH THE RUDDER ACTUATOR ENGAGE SOLENOID TO REDUCE BACK EMF FROM THAT SOLENOID. IF THAT DIODE IS NOT IN PLACE, THE BACK EMF FROM THE SOLENOID WILL TRIP THE FGC INTERNAL MONITORS, WHEN FGC'S ARE SWITCHED WITH THE YAW DAMPER ENGAGED.

6 OPTIONAL EQUIPMENT DENOTED BY (OPT).

Interconnect Information
Table 501 (cont)

Digital Air Data Computer No. 1

IOB P	Function	Connector Pin	Connects To
(P)	28 V DC HI	9J1A-1 (NOTE 3)	A/C 28 V DC PWR
(P)	28 V DC HI	-2 (NOTE 3)	A/C 28 DC PWR
(P)	28 V DC RETURN	-3 (NOTE 3)	A/C PWR GND
(P)	28 V DC RETURN	-4 (NOTE 3)	A/C PWR GND
(P)	SIGNAL GROUND	-5 (22)	SIG GND
(P)	SIGNAL GROUND	-6 (22)	SIG GND
(P)	DC GROUND	-7 (22)	A/C GND
(P)	DC GROUND	-8 (22)	A/C GND
(P)	CHASSIS GROUND	-9 (22)	CHASSIS GND
(P)	CHASSIS GROUND	-10 (22)	CHASSIS GND
(B)	SYS ASCB PRIMARY BUS (H)	-11 (22)	SEE SECT 3.3
(B)	SYS ASCB PRIMARY BUS (L)	-12 (22)	
	SPARE	-13	
	SPARE	-14	
	SPARE	-15	
	SPARE	-16	
	SPARE	-17	
	SPARE	-18	
	SPARE	-19	
	SPARE	-20	
	SPARE	-21	
	SPARE	-22	
	SPARE	-23	
	SPARE	-24	
	SPARE	-25	
	SPARE	-26	
	SPARE	-27	
	SPARE	-28	
	SPARE	-29	
	SPARE	-30	
	SPARE	-31	
	SPARE	-32	
	SPARE	-33	
(O)	ALT VALID (28 V DC/OPEN)	-34 (22)	STALL WARN COMPUTER #1, REF APPX C
(I)	BARO POT (H)	-35 (22)	115J2-L
(I)	BARO POT (W)	-36 (22)	115J2-M
(I)	BARO POT (L)	-37 (22)	115J2-N
(I)	BARO DISABLE*	-38 NC	REF APPX C
(I)	SSEC DISABLE*	9J1A-39 NC	

Interconnect Information
Table 501 (cont)

Digital Air Data Computer No. 1

IOB P	Function	Connector Pin		Connects To	
	SPARE	9J1A-40			
	SPARE	-41			
	SPARE	-42			
	SPARE	-43			
	SPARE	-44			
	SPARE	-45			
	SPARE	-46			
	SPARE	-47			
	SPARE	-48			
	SPARE	-49			
	SPARE	-50			
	SPARE	-51			
(I)	AIR DATA SELF TEST*	-52	------NC		
	SPARE	-53			
	SPARE	-54			
(I)	FLAP POS #1 (0 DEG*)	-55	(22)------------------	A/C WIRING	APPX C
(I)	FLAP POS #2 (10 DEG*)	-56	(22)------------------	A/C WIRING	APPX C
(I)	FLAP POS #3 (20 DEG*)	-57	(22)------------------	A/C WIRING	APPX C
(I)	FLAP POS #4 (39 DEG*)	-58	(22)------------------	A/C WIRING	APPX C
	SPARE	-59			
	SPARE	-60			
	SPARE	-61			
(I)	CABIN PRESS REF (H)	-62	(22)------------------	A/C WIRING	
(O)	CABIN PRESS RATIO (W)	-63	(22)------------------	A/C WIRING	
(I)	CABIN PRESS REF (C)	-64	(22)------------------	A/C WIRING	
	SPARE	-65			
(O)	CABIN PRESS RATIO VALID (GND/OPEN)	-66	(22)------------------	A/C WIRING, APPX C	
	SPARE	-67			
	SPARE	-68			
	SPARE	-69			
	SPARE	-70			
	SPARE	-71			
(I)	TEMPERATURE PROBE (H)	-72	(22)------------------	A/C WIRING	
(I)	TEMPERATURE PROBE (L)	-73	(22)------------------	A/C WIRING	
	SPARE	-74			
	SPARE	-75			
	SPARE	-76			
(O)	ALTITUDE SWITCH	-77	------NC	REF APPX C	
(O)	PRESSURE ALT SIG (H)	9J1A-78	(22)------------------	STALL WARN COMPUTER #1	

Interconnect Information
Table 501 (cont)

Digital Air Data Computer No. 1

IOB P	Function	Connector Pin	Connects To
	SPARE	9J1A-79	
(O)	ALT SWITCH COMMON	-80 (22)-------------------	A/C WIRING, REF APPX C
(I)	AOA TEST MODE SW COMMON	-81 (22)-------------------	A/C SIG GND
(I)	AOA TEST SW COMMON (SL)	-82 ------NC	
(I)	AOA TEST SW COMMON (15K)	-83 ------NC	
	SPARE	-84	
(O)	OVERSPEED WARNING (28 V DC/OPEN)	-85 (22)-------------------	A/C WIRING, REF APPX C
	SPARE	-86	
	SPARE	-87	
	SPARE	-88	
	SPARE	-89	
	SPARE	-90	
	SPARE	-91	
(O)	AOA TEST MODE SELECT (GND/OPEN)	-92 (22)-------------------	STALL WARN COMPUTER #1
(I)	ALERTER SELECT (OPEN/GND)	-93 (22)-------------------	C9J1A-93, 10J2B-88, C10J2B-88 REF APPX C
(O)	AOA INDEXER (RED) (GND/OPEN)	-94 (22)-------------------	APPX D
(O)	AOA INDEXER (GREEN) (GND/OPEN)	-95 (22)-------------------	APPX D
(O)	AOA INDEXER (YELLOW) (GND/OPEN)	-96 (22)-------------------	APPX D
(O)	AOA TEST MODE (SL) SELECT (GND/OPEN)	-97 ------NC	
(O)	AOA TEST MODE (15K) SELECT (GND/OPEN)	-98 ------NC	
	SPARE	-99	
(I)	PILOT/COPILOT*	-100 ------NC	
(I)	AIRCRAFT ID ID0	-101 (22)------------------	A/C GND
(I)	AIRCRAFT ID ID1	-102 ------NC	REF APPX C
(I)	AIRCRAFT ID ID2	-103 ------NC	
(I)	AIRCRAFT ID ID3	-104 (22)------------------	A/C GND
(I)	AIRCRAFT ID ID4	-105 ------NC	
(I)	AIRCRAFT ID ID5	9J1A-106 (22)------------------	A/C GND

Interconnect Information
Table 501 (cont)

Digital Air Data Computer No. 1

IOB P	Function		Connector Pin		Connects To
	SPARE		9J1B-1		
	SPARE		-2		
	SPARE		-3		
	SPARE		-4		
	SPARE		-5		
	SPARE		-6		
	SPARE		-7		
	SPARE		-8		
	SPARE		-9		
	SPARE		-10		
	SPARE		-11		
	SPARE		-12		
(B)	SYS ASCB SECONDARY	(H)	-13	(22)	SEE SECT 3.3
(B)	SYS ASCB SECONDARY	(L)	-14	(22)	
	SPARE		-15		
	SPARE		-16		
	SPARE		-17		
	SPARE		-18		
	SPARE		-19		
	SPARE		-20		
	SPARE		-21		
	SPARE		-22		
	SPARE		-23		
	SPARE		-24		
	SPARE		-25		
(B)	ARINC 429 OUTPUT #1	(H)	-26	(22)	65J1A-39
(B)	ARINC 429 OUTPUT #1	(L)	-27	(22)	65J1A-40
		SHIELD GND			
	SPARE		-28		
	SPARE		-29		
(B)	ARINC 429 OUTPUT #3	(H)	-30	(22)	170J1B-K4, C170J1B-K4
(B)	ARINC 429 OUTPUT #3	(L)	-31	(22)	170J1B-K5, C170J1B-K5
		SHIELD GND			
(B)	ARINC 429 OUTPUT #4	(H)	-32	(22)	A/C WIRING
(B)	ARINC 429 OUTPUT #4	(L)	-33	(22)	A/C WIRING
		SHIELD GND			
	SPARE		-34		
	SPARE		-35		
	SPARE		-36		
	SPARE		-37		
	SPARE		-38		
	SPARE		9J1B-39		

Interconnect Information
Table 501 (cont)

Digital Air Data Computer No. 1

IOB P	Function	Connector Pin		Connects To
	SPARE	9J1B-40		
	SPARE	-41		
	SPARE	-42		
	SPARE	-43		
	SPARE	-44		
	SPARE	-45		
	SPARE	-46		
	SPARE	-47		
	SPARE	-48		
(O)	ALT ALERT HORN (28V/OPEN)	-49	(22)	A/C WIRING APPX C
	SPARE	-50		
	SPARE	-51		
	SPARE	-52		
(O)	AOA REF (H)	-53	(22)	TO AOA PROBE
(O)	AOA REF (L)	-54	(22)	TO AOA PROBE
	SPARE	-55		
	SPARE	-56		
	SPARE	-57		
	SPARE	-58		
	SPARE	-59		
(I)	AOA SIG (W)	-60	(22)	TO AOA PROBE
	SPARE	-61		
	SPARE	-62		
	SPARE	-63		
	SPARE	-64		
	SPARE	-65		
	SPARE	-66		
	SPARE	-67		
	SPARE	-68		
	SPARE	-69		
(B)	ARINC 429 OUTPUT #2 (H)	-70	(22)	E65J1A-39, C65J1A-39 E170J1B-J10, APPX L
(B)	ARINC 429 OUTPUT #2 (L)	-71	(22)	E65J1A-40, C65J1A-40 E170J1B-J11, APPX L
	SPARE	-72		
	SPARE	-73		
	SPARE	-74		
(O)	ALT ALERT ANNUN (GND/OPEN)	-75	(22)	A/C WIRING REF APPX C
(O)	ALT ALERT HORN (GND/OPEN)	-76	(22)	A/C WIRING REF APPX C
	SPARE	-77		
	SPARE	-78		
	SPARE	9J1B-79		

Interconnect Information
Table 501 (cont)

Digital Air Data Computer No. 1

IOB P	Function		Connector Pin		Connects To
	RESERVED		9J1B-80		
	RESERVED		-81		
	RESERVED		-82		
	RESERVED		-83		
	RESERVED		-84		
	RESERVED		-85		
	RESERVED		-86		
	RESERVED		-87		
	RESERVED		-88		
	RESERVED		-89		
	RESERVED		-90		
	SPARE		-91		
	SPARE		-92		
	SPARE		-93		
	RESERVED		-94		
	RESERVED		-95		
	SPARE		-96		
	SPARE		-97		
	SPARE		-98		
	RESERVED		-99		
	RESERVED		-100		
	RESERVED		-101		
	RESERVED		-102		
(I)	ALT SELECT TACH	(H)	-103	(22)	11J1-30
(I)	ALT SELECT TACH	(L)	-104	(22)	11J1-31
	SPARE		-105		
	SPARE		9J1B-106		

Interconnect Information
Table 501 (cont)

Flight Guidance Computer No. 1

IOB P	Function	Connector Pin		Connects To
(P)	28 V DC PWR (STAB AUG SERVO PWR)	10J1A-1	(NOTE 3)	A/C 28 V DC PWR
(P)	28 V DC PWR RTN (STAB AUG SERVO PWR RTN)	-2	(NOTE 3)	A/C 28 V DC RTN
(P)	CHASSIS GND	-3	(22)	A/C CHASSIS GND
(P)	28 V DC (AUTO PILOT SERVO PWR)	-4	(NOTE 3)	A/C 28 V DC PWR
(P)	28 V DC (AUTO PILOT SERVO PWR RTN)	-5	(NOTE 3)	A/C 28 V DC PWR RTN
(P)	28 V DC COMPUTER POWER	-6	(NOTE 3)	A/C 28 V DC PWR
(P)	28 V DC COMPUTER POWER RTN	-7	(NOTE 3)	A/C 28 V DC PWR RTN
(P)	28 V DC COMPUTER POWER	-8	(NOTE 3)	A/C 28 V DC PWR
(P)	28 V DC COMPUTER POWER RTN	-9	(NOTE 3)	A/C 28 V DC PWR RTN
	SPARE	-10		
	SPARE	-11		
	SPARE	-12		
	SPARE	-13		
	SPARE	-14		
	SPARE	-15		
	SPARE	-16		
	SPARE	-17		
(I)	HDG SEL (H)	-18	(22)	11J1-26
	HDG SEL (L)	-19	(22)	11J1-27
	SPARE	-20		
(O)	AP BRAKE (28 V DC/OPEN)	-21	(22)	12P2-21, 13P2-21
(O)	TRIM BRAKE (28 V DC/OPEN)	-22	(22)	29J2-21
	SPARE	-23		
	SPARE	-24		
(O)	RESERVED	-25		
	SPARE	-26		
	SPARE	-27		
(I)	STICK SHAKER ACTIVE (28V/OPEN)	-28	(22)	A/C WIRING REF APPENDIX C
	SPARE	-29		
	SPARE	-30		
	SPARE	-31		
	SPARE	10J1A-32		

Interconnect Information
Table 501 (cont)

Flight Guidance Computer No. 1

IOB P	Function	Connector Pin	Connects To
(I)	TRIM DN CMD	10J1A-33 (22)	APPENDIX D
	SPARE	-34	
	SPARE	-35	
	SPARE	-36	
(O)	PRIORITY STATUS #1 (28V/OPEN)	-37 (22)	11J1-70, 115J1-a, C115J1-a, APPX C
	SPARE	-38	
	SPARE	-39	
(I)	Y/D ENGAGE/DISENG (OPEN/GND TOGGLE)	-40 (22)	APPENDIX D, REF APPENDIX C
(I)	TRIM ENGAGE/DISENG (OPEN/GND TOGGLE)	-41 (22)	APPENDIX D, REF APPENDIX C
	SPARE	-42	
	SPARE	-43	
	SPARE	-44	
	SPARE	-45	
	SPARE	-46	
(I)	TRIM UP CMD	-47 (22)	APPENDIX D
	SPARE	-48	
	SPARE	-49	
	SPARE	-50	
	SPARE	-51	
	SPARE	-52	
	SPARE	-53	
	SPARE	-54	
	SPARE	-55	
	SPARE	-56	
	SPARE	-57	
(O)	YAW DAMP ENGAGE (28V/OPEN)	-58 (22)	14P1-A, C10J1A-58, 134J1B-26, C134J1B-26, APPENDIX D
(O)	RUDDER ACTUATOR EXEC (H)	-59 (22)	14J1-M
(O)	RUDDER ACTUATOR EXEC (L)	-60 (22)	14J1-J
		SHIELD GND	
(I)	RUD LVDT FEEDBACK (H)	-61 (22)	14J1-L
(I)	RUD LVDT FEEDBACK (L)	10J1A-62 (22)	14J1-K
		SHIELD GND	

Interconnect Information
Table 501 (cont)

Flight Guidance Computer No. 1

IOB P	Function	Connector Pin	Connects To
(O)	RUD ACTUATOR DRIVE (H)	10J1A-63 (20)	14J1-F
(O)	RUD ACTUATOR DRIVE (L)	-64 (20)	14J1-E
		SHIELD GND	
	SPARE	-65	
	SPARE	-66	
	SPARE	10J1A-67	

Interconnect Information
Table 501 (cont)

Flight Guidance Computer No. 1

IOB P	Function	Connector Pin	Connects To
(B)	SYS ASCB PRIMARY BUS HI	10J1B-1 (22)	REF SECTION 3.3
(B)	SYS ASCB PRIMARY BUS LO	-2 (22)	REF SECTION 3.3
	SPARE	-3	
	RESERVED	-4	
	RESERVED	-5	
	SPARE	-6	
(I)	SPEED CMD (H)	-7 (22)	11J1-24
(I)	(L)	-8 (22)	11J1-25
	SPARE	-9	
	SPARE	-10	
(I)	V/S CMD (H)	-11 (22)	11J1-28
(I)	(L)	-12 (22)	11J1-29
	SPARE	-13	
	SPARE	-14	
	SPARE	-15	
(I)	PITCH UP TRIM LIMIT	-16 (22)	29AJ1-6
	SPARE	-17	
	SPARE	-18	
(I)	PITCH DN TRIM LIMIT	-19 (22)	29AJ1-5
	SPARE	-20	
	SPARE	-21	
	SPARE	-22	
	SPARE	-23	
	SPARE	-24	
	SPARE	-25	
	SPARE	-26	
	SPARE	-27	
	SPARE	-28	
	SPARE	-29	
	SPARE	-30	
	SPARE	-31	
	SPARE	-32	
	SPARE	-33	
	SPARE	-34	
	SPARE	-35	
(O)	A - PROC DAC #3	-36 (22)	2
(O)	A - PROC DAC #4	-37 (22)	2
(O)	A - PROC DAC #5	-38 (22)	2
(O)	A - PROC DAC #6	10J1B-39 (22)	2

Interconnect Information
Table 501 (cont)

Flight Guidance Computer No. 1

IOB P	Function	Connector Pin	Connects To
	SPARE	10J1B-40	
	SPARE	-41	
	SPARE	-42	
	SPARE	-43	
(I)	26 V AC REF (H)	-44 (22)	29J1-3, 26 V AC PWR
(I)	26 V AC REF (L)	-45 (22)	SIG GND
(O)	B - PROC DAC #3	-46 (22)	2
(O)	B - PROC DAC #4	-47 (22)	2
	SPARE	-48	
	SPARE	-49	
	SPARE	-50	
	SPARE	-51	
(O)	B - PROC DAC #5	-52 (22)	2
	SPARE	-53	
	SPARE	-54	
	SPARE	-55	
	SPARE	-56	
(O)	B - PROC DAC #6	-57 (22)	2
	SPARE	-58	
	SPARE	-59	
	SPARE	-60	
	SPARE	-61	
	SPARE	-62	
	SPARE	-63	
(I)	FLIGHT TEST INPUT #1 (H)	-64 (22)	2
(I)	FLIGHT TEST INPUT #1 (L)	-65 (22)	2
	SPARE	-66	
	SPARE	-67	
(I)	ELEVATOR TACH FEEDBACK (H)	-68 (22)	13J1-17
(I)	ELEVATOR TACH FEEDBACK (L)	-69 (22)	13J1-16
(I)	AILERON TACH FEEDBACK (H)	-70 (22)	12J1-17
(I)	AILERON TACH FEEDBACK (L)	-71 (22)	12J1-16
(I)	TRIM TACH FEEDBACK (H)	10J1B-72 (22)	29J1-16

Interconnect Information
Table 501 (cont)

Flight Guidance Computer No. 1

IOB P	Function		Connector Pin		Connects To	
(I)	TRIM TACH FEEDBACK (L)		10J1B-73	(22)-------------------	29J1-17	
(I)	FLIGHT TEST INPUT #2 (H)		-74	(22)-------------------	2	
(I)	FLIGHT TEST INPUT #2 (L)		-75	(22)-------------------		
(I)		ID1	-76			REF APPX
(I)		ID2	-77			
(I)	A/C IDENTIFICATION	ID3	-78			
(I)		ID4	-79	(22)-------------------	SIG GND	
(I)		ID5	-80			
		ID6	-81	(22)-------------------	SIG GND	
	SPARE		-82			
	SPARE		-83			
	SPARE		-84			
(I)	CS TRIM DN CMD		-85	(22)-------------------	APPENDIX D	
(I)	CS TRIM UP CMD		-86	(22)-------------------	APPENDIX D	
	RESERVED		-87	------NC		
	SPARE		-88			
	SPARE		-89			
	SPARE		-90			
	SPARE		-91			
	SPARE		-92			
	SPARE		-93			
	SPARE		-94			

INSTALLATION CRITICAL - PINS 95 AND 96 ARE CRITICAL. SEE PAGE 3-13.

IOB P	Function		Connector Pin		Connects To	
(I)	MISCOMPARE #1*		-95	(22)-------------------	C10J1B-95, E170J1A-E6	REF APPX C
(I)	MISCOMPARE #2*		-96	(22)-------------------	C10J1B-96, E170J1A-E7	
	SPARE		-97			
	SPARE		-98			
(I)	RAD ALT FORMAT	ID1	-99	------NC		
(I)	RAD ALT FORMAT	ID0	-100	-----NC		
	SPARE		-101			
(I)	PILOT/COPILOT I.D. #1		-102	(22)------------------	A/C GND	
(I)	PILOT/COPILOT I.D. #2		-103	-----NC		
(I)	END ITEM TEST		-104	-----NC		
	SPARE		-105			
(O)	PROGRAM PIN GND	1	10J1B-106			

Interconnect Information
Table 501 (cont)

Flight Guidance Computer No. 1

IOB P	Function		Connector Pin	Connects To
	SPARE		10J2A-1	
	SPARE		-2	
(P)	SIGNAL GND		-3 (22)	A/C SIGNAL GND
	SPARE		-4	
	SPARE		-5	
	SPARE		-6	
	SPARE		-7	
	SPARE		-8	
	SPARE		-9	
	SPARE		-10	
	SPARE		-11	
	SPARE		-12	
	SPARE		-13	
	SPARE		-14	
	SPARE		-15	
	SPARE		-16	
	SPARE		-17	
	SPARE		-18	
	SPARE		-19	
	SPARE		-20	
	SPARE		-21	
	SPARE		-22	
	SPARE		-23	
	SPARE		-24	
	SPARE		-25	
	SPARE		-26	
	SPARE		-27	
	SPARE		-28	
	SPARE		-29	
	SPARE		-30	
	SPARE		-31	
	SPARE		-32	
	SPARE		-33	
	SPARE		-34	
	SPARE		-35	
(I)	CROSS RADIO ALTITUDE	(H)	-36 (22)	C20J1-W, C10J2B-26, 137J1A-50
(I)	CROSS RADIO ALTITUDE	(L)	10J2A-37 (22)	C20J1-N, C10J2B-27, 137J1A-51, C20J1-E

Interconnect Information
Table 501 (cont)

Flight Guidance Computer No. 1

IOB P	Function	Connector Pin	Connects To
(I)	CROSS RADIO ALTITUDE VALID	10J2A-38 (22)	C20J1-Y, C10J2B-28, 137J1B-19
	SPARE	-39	
	SPARE	-40	
(I)	A/P CROSS PWR SENSE IN	-41 (22)	C10J2A-42
(O)	A/P CROSS PWR SENSE OUT	-42 (22)	C10J2A-41
(I)	STAB AUG PWR SENSE IN	-43 (22)	C10J2A-44
(O)	STAB AUG PWR SENSE OUT	-44 (22)	C10J2A-43
(I)	CROSS SERVO PWR SENSE IN	-45 (22)	C10J2A-46
(O)	CROSS SERVO PWR SENSE OUT	-46 (22)	C10J2A-45
(I)	CROSS SERVOS OFF IN	-47 (22)	C10J2A-48
(O)	CROSS SERVOS OFF OUT	-48 (22)	C10J2A-47
(I)	CROSS CHANNEL SYNC IN	-49 (22)	C10J2A-50
(O)	CROSS CHANNEL SYNC OUT	-50 (22)	C10J2A-49
(O)	A-PROC DAC #1	-51 (22)	2
(O)	A-PROC DAC #2	-52 (22)	
(O)	B-PROC DAC #1	-53 (22)	
(O)	B-PROC DAC #2	-54 (22)	
(O)	ELEVATOR SERVO DRIVE (H)	-55 (20)	13P1-1
(O)	ELEVATOR SERVO DRIVE (L)	-56 (20)	13P1-2
		SHIELD GND	
(O)	AILERON SERVO DRIVE (H)	-57 (20)	12P1-1
(O)	AILERON SERVO DRIVE (L)	-58 (20)	12P1-2
		SHIELD GND	
(O)	TRIM DRIVE UP	-59 (20)	29J1-2
(O)	DN	-60 (20)	29J1-1
(O)	AILERON AND ELEVATOR CLUTCH DRIVES	-61 (22)	APPENDIX D
	SPARE	-62	
(O)	TRIM CLUTCH DRIVE	-63 (22)	APPENDIX D
	SPARE	-64	
(O)	5 V DC GP PWR #1	-65 (22)	11J1-12
(O)	5 V DC GP PWR RTN #1	-66 (22)	11J1-13
(O)	FDAC COMMON	10J2A-67 (22)	2

Interconnect Information
Table 501 (cont)

Flight Guidance Computer No. 1

IOB P	Function	Connector Pin	Connects To
(B)	SYS ASCB SECONDARY BUS HI	10J2B-1 (22)	REF SECTION 3.3
(B)	SYS ASCB SECONDARY BUS LO	-2 (22)	REF SECTION 3.3
	SPARE	-3	
	RESERVED	-4	
	RESERVED	-5	
	SPARE	-6	
	SPARE	-7	
	SPARE	-8	
	SPARE	-9	
	SPARE	-10	
	SPARE	-11	
	SPARE	-12	
	SPARE	-13	
	SPARE	-14	
	SPARE	-15	
	SPARE	-16	
	SPARE	-17	
	SPARE	-18	
	SPARE	-19	
	SPARE	-20	
	SPARE	-21	
	SPARE	-22	
	SPARE	-23	
	SPARE	-24	
	SPARE	-25	
(I)	RADIO ALTITUDE (H)	-26 (22)	C10J2A-36, 20J1-W, 136J1A-50
(I)	RADIO ALTITUDE (L)	-27 (22)	C10J2A-37, 20J1-N, 136J1A-51, 20J1-E
(I)	RADIO ALTITUDE VALID	-28 (22)	20J1-Y, C10J2A-38, 136J1B-19
(I)	B FLIGHT TEST INPUT #1 (H)	-29 (22)	2
(I)	B FLIGHT TEST INPUT #1 (L)	10J2B-30 (22)	

Interconnect Information
Table 501 (cont)

Flight Guidance Computer No. 1

IOB P	Function		Connector Pin		Connects To
(I)	B FLIGHT TEST INPUT #2	(H)	10J2B-31	(22)	2
(I)	B FLIGHT TEST INPUT #2	(L)	-32	(22)	
	SPARE		-33		
	SPARE		-34		
	SPARE		-35		
	SPARE		-36		
	SPARE		-37		
	SPARE		-38		
	SPARE		-39		
	SPARE		-40		
	SPARE		-41		
	SPARE		-42		
	SPARE		-43		
(I)		(X)	-44	(22)	29J1-18
(I)	TRIM SERVO POS	(Y)	-45	(22)	29J1-19
(I)		(Z)	-46	(22)	29J1-20
	SPARE		-47		
	SPARE		-48		
	SPARE		-49		
	SPARE		-50		
	SPARE		-51		
	SPARE		-52		
(O)	Y/D DISENGAGE ANNUN (28V/OPEN)		-53	(22)	APPENDIX D, REF APPENDIX C
(I)	AUTOPILOT DISCONNECT (OPEN/GND)		-54	(22)	APPENDIX D, REF APPENDIX C
(I)	TK POS REF		-55	(22)	129J1-3
(I)	TK REF GND		-56	(22)	129J1-4
(I)	TK NEG REF		-57	(22)	129J1-1
(I)	TK SIG (H)		-58	(22)	129J1-2, C10J2B-60
(I)	TK OUT OF DETENT		-59	(22)	129J1-8, C10J2B-61
(I)	CS TK SIG (H)		-60	(22)	129J1-12, C10J2B-58
(I)	CS TK OUT OF DETENT		-61	(22)	129J1-17, C10J2B-59
	SPARE		10J2B-62		

Interconnect Information
Table 501 (cont)

Flight Guidance Computer No. 1

IOB P	Function	Connector Pin		Connects To	
	SPARE	10J2B-63			
	SPARE	-64			
(I)	EMERGENCY DISCONNECT (OPEN/28V)	-65	(22)	10J1A-6, 10J1A-8	REF APPX C
(I)	TRIM DISCONNECT (OPEN/GND)	-66	(22)	APPENDIX D	REF APPX C
(I)	YAW DAMPER DISCONNECT (OPEN/GND)	-67	(22)	SIG GND	REF APPX C
(I)	TEST SIGNAL ENABLE*	-68	(22)	2 (triangle)	REF APPX C
(I)	FTIU INSTALLED*	-69	(22)		REF APPX C
	SPARE	-70			
	SPARE	-71			
(I)	SPEED BRAKES DEPLOYED*	-72	(22)	A/C WIRING	REF APPX C
	SPARE	-73			
(I)	WEIGHT ON WHEELS*	-74	(22)	A/C WIRING	REF APPX C
	SPARE	-75			
	SPARE	-76			
	SPARE	-77			
(I)	GEAR DOWN*	-78	(22)	A/C WIRING	REF APPX C
(I)	MAINTENANCE TEST ENABLE*	-79	(22)	APPENDIX D	REF APPX C
	SPARE	-80			
(O)	TRIM DISENGAGE ANNUN (28V/OPEN)	-81	(22)	APPENDIX D	REF APPX C
(I)	PWR UP RESET GND INPUT	-82	(22)	2 (triangle)	
	SPARE	-83			
	SPARE	-84			
	SPARE	-85			
	SPARE	-86			
	SPARE	-87			
(O)	PILOT/COPILOT* CPL SELECT OUT (OPEN/GND)	-88	(22)	9J1A-93, C9J1A-93, C10J2B-88,APPX C	
(O)	GP ANN VALID (28V/OPEN)	-89	(22)	11J1-69	
	SPARE	-90			
	SPARE	-91			
	SPARE	-92			
	SPARE	-93			
(I)	PITCH THUMB WHEEL (H)	-94	(22)	C10J2B-104, 129J1-18	
(I)	PITCH THUMB WHEEL (L)	-95	(22)	C10J2B-105, 129J1-19	
(O)	PANEL STROBE (H)	-96	(22)	11J1-5	
(O)	(L)	10J2B-97	(22)	11J1-6	

Interconnect Information
Table 501 (cont)

Flight Guidance Computer No. 1

IOB P	Function		Connector Pin	Connects To
(O)	PANEL CLOCK	(H)	10J2B-98 (22)	11J1-3
(O)		(L)	-99 (22)	11J1-4
(O)	GP SERIAL DATA REC	(H)	-100 (22)	11J1-7
(O)		(L)	-101 (22)	11J1-8
(I)	GP SERIAL DATA TRANS	(H)	-102 (22)	11J1-1
(I)	GP SERIAL DATA TRANS	(L)	-103 (22)	11J1-2
(I)	CROSS PITCH THUMB WHEEL	(H)	-104(22)	C10J2B-94, 129J1-21
(I)	CROSS PITCH THUMB WHEEL	(L)	-105 (22)	C10J2B-95, 129J1-22
			SHIELD GND	
(I)	GP BUTTON ARM #1 (GND/OPEN)		10J2B-106 (22)	11J1-38

Interconnect Information
Table 501 (cont)

Guidance Panel

IOB P	Function	Connector Pin	Connects To
(I)	SERIAL DATA REC #1 (H)	11J1-1 (22)	10J2B-102
(I)	SERIAL DATA REC #1 (L)	-2 (22)	10J2B-103
		SHIELD GND	
(I)	PANEL CLOCK #1 (H)	-3 (22)	10J2B-98
(I)	(L)	-4 (22)	10J2B-99
		SHIELD GND	
(I)	PANEL STROBE #1 (H)	-5 (22)	10J2B-96
(I)	(L)	-6 (22)	10J2B-97
		SHIELD GND	
(O)	SERIAL DATA TRANS #1 (H)	-7 (22)	10J2B-100
(O)	SERIAL DATA TRANS #1 (L)	-8 (22)	10J2B-101
		SHIELD GND	
(P)	CHASSIS GND	-9 (22)	A/C GND
(P)	CHASSIS GND	-10 (22)	A/C GND
(O)	GS/EL ACTIVE GND #1	-11 (22)	11J2-11, ILS/MLS RECEIVER,APPX C
(I)	5 V DC A/P POWER #1	-12 (22)	10J2A-65
(I)	5 V DC A/P POWER #1 RTN	-13 (22)	10J2A-66
(O)	BC ACTIVE GND #1	-14 (22)	11J2-14, GPWS, APPX C
(P)	28 V DC ANNUN PWR #1	-15 (NOTE 3)	A/C WIRING
(P)	28 V DC ANNUN PWR #1 RTN	-16 (NOTE 3)	A/C WIRING
	SPARE	-17	
	SPARE	-18	
	SPARE	-19	
	SPARE	-20	
	SPARE	-21	
	SPARE	-22	
	SPARE	-23	
(O)	SPEED TACH #1 (H)	-24 (22)	10J1B-7
(O)	(L)	-25 (22)	10J1B-8
		SHIELD GND	
(O)	HEADING TACH #1 (H)	-26 (22)	10J1A-18
(O)	(L)	11J1-27 (22)	10J1A-19
		SHIELD GND	

Interconnect Information
Table 501 (cont)

Guidance Panel

IOB P	Function	Connector Pin	Connects To
(O)	V/S TACH #1 (H)	11J1-28 (22)	10J1B-11
(O)	(L)	-29 (22)	10J1B-12
		SHIELD GND	
(O)	ALT PRESELECT TACH #1 (H)	-30 (22)	9J1B-103
(O)	ALT PRESELECT TACH #1 (L)	-31 (22)	9J1B-104
		SHIELD GND	
(O)	CRS SEL TACH #1 (H)	-32 (22)	115J2-c,C115J2-c
(O)	(L)	-33 (22)	115J2-d,C115J2-d
		SHIELD GND	
	SPARE	-34	
(I)	SUBTEST SELECT*	-35 (22)	115J1-v,C115J1-v 11J2-35, APPX C
(O)	CRS SYN #1 (GND/OPEN)	-36 (22)	115J2-e,C115J2-e
	SPARE	-37	
(O)	BUTTON ARM #1 (GND/OPEN)	-38 (22)	10J2B-106
(O)	A/P DISENG ANNUN GND	-39 (22)	APPX C&D
(O)	Y/D DISENG ANNUN GND	-40	
(O)	M/T DISENG ANNUN GND	-41	
(O)	A/P MISTRIM ANNUN GND	-42	
(O)	HORN GND	-43 ------NC	
(I)	TRIM UP ENABLE	-44 (22)	APPX D
	SPARE	-45	
	SPARE	-46	
	SPARE	-47	
(I)	EDGE LIGHTING DIM (H)	-48 (22)	A/C WIRING
(I)	CONTROL (0-5 VDC) (L)	-49 (22)	
(I)	PUSHBUTTON ANNUN DIM (H) CONTROL (0-5 VDC)	-50 (22)	A/C WIRING
(I)	TRIM DN ENABLE	-51 (22)	APPX D
(I)	DIGITAL DISPLAY DIM (H) CONT (0-5 VDC)	-52 (22)	A/C WIRING
	SPARE	-53	
	SPARE	-54	
	SPARE	-55	
(I)	CS TRIM UP ENABLE	-56 (22)	APPX D
	SPARE	-57	
(I)	MAINTENANCE TEST SEL*	11J1-58 (22)	134J1A-19, C134J1A-19, 11J2-58, APPX C

Interconnect Information
Table 501 (cont)

Guidance Panel

IOB P	Function	Connector Pin		Connects To
	SPARE	11J1-59		
	SPARE	-60		
(I)	FGC LEFT PRIORITY SELECT*	-61	(22)-------------------	115J1-HH
(I)	FGC RIGHT PRIORITY SEL*	-62	(22)-------------------	115J1-z
	SPARE	-63		
(I)	LAMP TEST #1*	-64	(22)-------------------	A/C WIRING, APPX C
(I)	CS TRIM DN ENABLE	-65	(22)-------------------	APPX D
	SPARE	-66		
	SPARE	-67		
	SPARE	-68		
(I)	ANNUNCIATOR VALID #1 (28V/OPEN)	-69	(22)-------------------	10J2B-89
(I)	PRIORITY STATUS #1 (28V/OPEN)	-70	(22)-------------------	10J1A-37, 115J1-a, C115J1-a, APPX C
(I)	WOW*	-71	(22)-------------------	A/C WIRING, APPX C
(I)	TOGA #1	-72	(22)-------------------	APPX D, APPX C
(I)	S/B MANUAL TRIM SELECT	-73		
(I)	TCS #1*	-74	(22)-------------------	APPX D, APPX C
	SPARE	-75		
	SPARE	-76		
(I)	A/P DISCON #1 (OPEN/GND)	-77	(22)-------------------	APPX D, APPX C
(I)	Y/D ENG/DISENG #1	-78	(22)-------------------	APPX D, APPX C
(I)	M/T ENG/DISENG #1	11J1-79	(22)-------------------	APPX D, APPX C

Interconnect Information
Table 501 (cont)

Guidance Panel

IOB P	Function	Connector Pin	Connects To
(I)	SERIAL DATA REC #2 (H)	11J2-1 (22)	C10J2B-102
(I)	SERIAL DATA REC #2 (L)	-2 (22)	C10J2B-103
		SHIELD GND	
(I)	PANEL CLOCK #2 (H)	-3 (22)	C10J2B-98
(I)	(L)	-4 (22)	C10J2B-99
		SHIELD GND	
(I)	PANEL STROBE #2 (H)	-5 (22)	C10J2B-96
(I)	(L)	-6 (22)	C10J2B-97
		SHIELD GND	
(O)	SERIAL DATA TRANS #2 (H)	-7 (22)	C10J2B-100
(O)	SERIAL DATA TRANS #2 (L)	-8 (22)	C10J2B-101
		SHIELD GND	
(P)	CHASSIS GND	-9 (22)	A/C GND
(P)	CHASSIS GND	-10 (22)	A/C GND
(O)	GS/EL ACTIVE GND #2	-11 (22)	11J1-11, ILS RECEIVER, APPX C
(I)	5 V DC A/P POWER #2	-12 (22)	C10J2A-65
(I)	5 V DC A/P POWER #2 RTN	-13 (22)	C10J2A-66
(O)	BC ACTIVE GND #2	-14 (22)	11J1-14, GPWS APPX C
(P)	28 V DC ANNUN PWR #2	-15 (NOTE 3)	A/C WIRING
(P)	28 V DC ANNUN PWR #2 RTN	-16 (NOTE 3)	A/C WIRING
	SPARE	-17	
	SPARE	-18	
	SPARE	-19	
	SPARE	-20	
	SPARE	-21	
	SPARE	-22	
	SPARE	-23	
(O)	SPEED TACH #2 (H)	-24 (22)	C10J1B-7
(O)	(L)	-25 (22)	C10J1B-8
		SHIELD GND	
(O)	HEADING TACH #2 (H)	-26 (22)	C10J1A-18
(O)	(L)	11J2-27 (22)	C10J1A-19
		SHIELD GND	

Interconnect Information
Table 501 (cont)

Guidance Panel

IOB P	Function	Connector Pin	Connects To
(O)	V/S TACH #2 (H)	11J2-28 (22)	C10J1B-11
(O)	(L)	-29 (22)	C10J1B-12
		SHIELD GND	
(O)	ALT PRESELECT TACH #2 (H)	-30 (22)	C9J1B-103
(O)	ALT PRESELECT TACH #2 (L)	-31 (22)	C9J1B-104
		SHIELD GND	
(O)	CRS SEL TACH #2 (H)	-32 (22)	115J2-g, C115J2-g
(O)	(L)	-33 (22)	115J2-h, C115J2-h
		SHIELD GND	
	SPARE	-34	
(I)	SUBTEST SELECT*	-35 (22)	115J1-v,C115J1-v 11J1-35, APPX C
(O)	CRS SYN #2 (GND/OPEN)	-36 (22)	115J2-j, C115J2-j
	SPARE	-37	
(O)	BUTTON ARM #2 (GND/OPEN)	-38 (22)	C10J2B-106
	SPARE	-39	
	SPARE	-40	
	SPARE	-41	
	SPARE	-42	
	SPARE	-43	
(I)	TRIM UP ENABLE	-44 (22)	APPX D
	SPARE	-45	
	SPARE	-46	
	SPARE	-47	
	SPARE	-48	
	SPARE	-49	
(I)	SPARE	-50	
(I)	TRIM DN ENABLE	-51 (22)	APPX D
	SPARE	-52	
(I)	TCS #2*	-53 (22)	APPX D, APPX C
(I)	TOGA #2	-54 (22)	APPX D, APPX C
	SPARE	-55	
(I)	CS TRIM UP ENABLE	-56 (22)	APPX D
	SPARE	-57	
(I)	MAINTENANCE TEST SEL*	-58 (22)	134J1A-19, C134J1A-19, 11J1-58, APPX C
	SPARE	11J2-59	

Interconnect Information
Table 501 (cont)

Guidance Panel

IOB P	Function	Connector Pin		Connects To
	SPARE	11J2-60		
(I)	FGC LEFT PRIORITY SELECT*	-61	(22)-------------------	C115J1-HH
(I)	FGC RIGHT PRIORITY SELECT*	-62	(22)-------------------	C115J1-z
	SPARE	-63		
(I)	LAMP TEST #2*	-64	(22)-------------------	A/C WIRING, APPX C
(I)	CS TRIM DN ENABLE	-65	(22)-------------------	APPX D
	SPARE	-66		
	SPARE	-67		
	SPARE	-68		
(I)	ANNUNCIATOR VALID #2 (28V/OPEN)	-69	(22)-------------------	C10J2B-89
(I)	PRIORITY STATUS #2 (28V/OPEN)	-70	(22)-------------------	C10J1A-37, 115J1-b, C115J1-b, APPX C
	SPARE	-71		
	SPARE	-72		
	SPARE	-73		
	SPARE	-74		
	SPARE	-75		
	SPARE	-76		
(I)	A/P DISCON #2 (OPEN/GND)	-77	(22)-------------------	APPX D REF APPX C
(I)	Y/D ENG/DISENG #2	-78	(22)-------------------	APPX D REF APPX C
(I)	M/T ENG/DISENG #2	11J2-79	(22)-------------------	APPX D REF APPX C

Interconnect Information
Table 501 (cont)

Autopilot Aileron Servo

IOB P	Function	Connector Pin	Connects To
(I)	SERVO DRIVE (H)	12P1-1 (20)	10J2A-57,
(I)	SERVO DRIVE (L)	-2 (20)	10J2A-58,
(P)	26 V AC SYNCHRO REF (H)	-3 ------NC	
(P)	26 V AC SYNCHRO REF (L)	-4 ------NC	
	SPARE	-5	
	SPARE	-6	
	SPARE	-7	
	SPARE	-8	
	SPARE	-9	
(P)	CHASSIS GROUND	-10 (22)	A/C CHASSIS GND
	SPARE	-11	
(I)	+28 V DC CLUTCH EXCITATION	-12 (22)	APPENDIX D
	SPARE	-13	
(I)	-28 V DC CLUTCH EXCITATION	-14 (22)	A/C GND
(P)	SHIELD GROUND	-15 (22)	
(O)	SERVO TACH (H)	-17 (22)	10J1B-70
(O)	(L)	-16 (22)	10J1B-71
(O)	SYNCHRO POSITION (X)	-18 ------NC	
(O)	(Y)	-19 ------NC	
	SPARE	-20	
(I)	SERVO BRAKE (28 V DC)	-21 (22)	C10J1A-21
(I)	SERVO BRAKE (GND)	12P1-22 (22)	A/C GND

Interconnect Information
Table 501 (cont)

Autopilot Aileron Servo

IOB P	Function	Connector Pin	Connects To
(I)	SERVO DRIVE (H)	12P2-1 (20)	C10J2A-57
(I)	(L)	-2 (20)	C10J2A-58
(P)	26 V AC SYNCHRO REF (H)	-3	NC
(P)	26 V AC SYNCHRO REF (L)	-4	NC
	SPARE	-5	
	SPARE	-6	
	SPARE	-7	
	SPARE	-8	
	SPARE	-9	
(P)	CHASSIS GROUND	-10 (22)	A/C CHASSIS GND
	SPARE	-11	
	SPARE	-12	
	SPARE	-13	
	SPARE	-14	
(P)	SHIELD GROUND	-15 (22)	
(O)	SERVO TACH (H)	-17 (22)	C10J1B-70
(O)	(L)	-16 (22)	C10J1B-71
(O)	SYNCHRO POSITION (X)	-18	NC
(O)	(Y)	-19	NC
	SPARE	-20	
(I)	SERVO BRAKE (28 V DC)	-21 (22)	10J1A-21
(I)	SERVO BRAKE (GND)	12P2-22 (22)	A/C GND

Interconnect Information
Table 501 (cont)

Autopilot Elevator Servo

IOB P	Function	Connector Pin	Connects To
(I)	SERVO DRIVE (H)	13P1-1 (20)	10J2A-55
(I)	(L)	-2 (20)	10J2A-56
(P)	26 V AC SYNCHRO REF (H)	-3 ------NC	
(P)	26 V AC SYNCHRO REF (L)	-4 ------NC	
	SPARE	-5	
	SPARE	-6	
	SPARE	-7	
	SPARE	-8	
	SPARE	-9	
(P)	CHASSIS GROUND	-10 (22)	A/C CHASSIS GND
(I)	28 V DC CLUTCH EXC	-11 (22)	APPENDIX D
	SPARE	-12	
	SPARE	-13	
(I)	-28 V DC CLUTCH EXC	-14 (22)	A/C GND
(P)	SHIELD GROUND	-15 (22)	
(O)	SERVO TACH (H)	-16 (22)	10J1B-69
(O)	(L)	-17 (22)	10J1B-68
(O)	SYNCHRO POSITION (X)	-18 ------NC	
(O)	(Y)	-19 ------NC	
	SPARE	-20	
(I)	SERVO BRAKE (28 V DC)	-21 (22)	C10J1A-21
(I)	SERVO BRAKE (GND)	13P1-22 (22)	A/C GND

Interconnect Information
Table 501 (cont)

Autopilot Elevator Servo

IOB P	Function	Connector Pin	Connects To
(I)	SERVO DRIVE (H)	13P2-1 (20)	C10J2A-55
(I)	(L)	-2 (20)	C10J2A-56
(P)	26 V AC SYNCHRO REF (HI	-3	NC
(P)	26 V AC SYNCHRO REF (L)	-4	NC
	SPARE	-5	
	SPARE	-6	
	SPARE	-7	
	SPARE	-8	
	SPARE	-9	
(P)	CHASSIS GROUND	-10 (22)	A/C CHASSIS GND
	SPARE	-11	
	SPARE	-12	
	SPARE	-13	
	SPARE	-14	
(P)	SHIELD GROUND	-15 (22)	
(O)	SERVO TACH (H)	-16 (22)	C10J1B-69
(O)	(L)	-17 (22)	C10J1B-68
(O)	SYNCHRO POSITION (X)	-18	NC
(O)	(Y)	-19	NC
	SPARE	-20	
(I)	SERVO BRAKE (28 V DC)	-21 (22)	10J1A-21
(I)	SERVO BRAKE (GND)	13P2-22 (22)	A/C GND

Interconnect Information
Table 501 (cont)

BERTEA Rudder Actuator

IOB P	Function	Connector Pin	Connects To
(I)	ACTIVATE SOLENOID (H) ENGAGE (28 V DC)	14P1-A (22)	10J1A-58, C10J1A-58, 134J1B-26, C134J1B-26
(I)	ACTIVATE SOLENOID (L) ENGAGE	-B (22)	A/C GND
	SPARE	-C	
	SPARE	-D	
(I)	#1 DRIVE - LEFT	-E (20)	10J1A-64
(I)	#1 DRIVE + RUDDER	-F (20)	10J1A-63
(I)	#2 DRIVE - LEFT	-G (20)	C10J1A-64
(I)	#2 DRIVE + RUDDER	-H (20)	C10J1A-63
(I)	#1 RUDDER LVDT EXEC (L)	-J (22)	10J1A-60
(I)	#1 RUDDER LVDT EXEC (H)	-M (22)	10J1A-59
(O)	#1 RUDDER LVDT (L) FEEDBACK	-K (22)	10J1A-62
(O)	#1 RUDDER LVDT (H) FEEDBACK	-L (22)	10J1A-61
(O)	RUDDER LIMIT WARN (ARM)	-N (22)	137J1B-54
(O)	RUDDER LIMIT WARN (NO)	-P (22)	A/C 28 V DC
(I)	#2 RUDDER LVDT EXEC (L)	-R (22)	C10J1A-60
(I)	#2 RUDDER LVDT EXEC (H)	-S (22)	C10J1A-59
(O)	#2 RUDDER LVDT (H) FEEDBACK	-T (22)	C10J1A-61
(O)	#2 RUDDER LVDT (L) FEEDBACK	14P1-U (22)	C10J1A-62

Interconnect Information
Table 501 (cont)

Radio Altimeter No. 1

IOB P	Function	Connector Pin	Connects To
	SPARE	20J1-A	
	SPARE	-B	
	SPARE	-C	
(I)	TEST INHIBIT*	-D ------NC	APPX C
(I)	OUTPUT TEST	-E (22)	20J1-N,10J2B-27, C10JB-37, 136J1A-51,APPX C
(O)	TRACK INVALID	-F ------NC	
	SPARE	-G	
	SPARE	-H	
	SPARE	-J	
	SPARE	-K	
(O)	TRIP NO. 4 (400 FT)	-L ------NC	
(P)	+/- 15 V DC COMMON	-M ------NC	
(O)	OUTPUT COMMON	-N (22)	20J1-E,10J2B-27, C10J2A-37, 136J1A-51, APPX J, APPX L
(O)	ALT TRIP COMMON	-P ------NC	
(O)	TRIP NO. 3 (50 FT)	-R ------NC	
	SPARE	-S	
(I)	TEST*	-T (22)	134J1A-95,APPX C
(O)	TRIP NO. 1 (1200 FT)	-U ------NC	
(O)	TRIP NO. 2 (250 FT)	-V ------NC	
(O)	ALT OUTPUT (EH)	-W (22)	10J2B-26, C10J2A-36, 136J1A-50
		SHIELD GND	
(O)	AUX OUTPUT (H)	-X (22)	APPX L
(O)	RAD. ALT. VALID (28V/OPEN)	-Y (22)	10J2B-28, C10J2A-38, 136J1B-19,APPX C
(P)	+15 V DC	-Z ------NC	APPX L
(P)	-15 V DC	-a ------NC	
(P)	POWER GND	-b (NOTE 3)	A/C PWR GND
(P)	+27.5 V DC	20J1-c (NOTE 3)	A/C 28 V DC PWR
(O)	TRANSMIT	20J2 ** ---- 21J1	COAX TO TRANSMIT ANTENNA
(I)	RECEIVE	20J3 ** ---- 22J1	COAX TO RECEIVE ANTENNA

**MATING CONNECTOR HONEYWELL PART NO. 4008064, GRFF4007-0002 (ST)
HONEYWELL PART NO. 4008065, GRFF4100-0001 (RT ANGLE)

NOTE: FOR FURTHER INFORMATION ON THE RADIO ALTIMETER SYSTEM, PLEASE REF: AA-300, O & I MANUAL, PUB. NO. 15-3321-06.

Interconnect Information
Table 501 (cont)

Trim Elevator Servo

IOB P	Function		Connector Pin	Connects To
(I)	SERVO DRIVE	(L)	29J1-1 (20)	10J2A-60
(I)		(H)	-2 (20)	10J2A-59
(P)	26 V AC SYNCHRO REF	(H)	-3 (22)	10J1B-44, A/C 26V AC PWR
(P)	26 V AC SYNCHRO REF	(L)	-4 (22)	A/C PWR GND
	SPARE		-5	
	SPARE		-6	
	SPARE		-7	
	SPARE		-8	
	SPARE		-9	
(P)	CHASSIS GROUND		-10 (22)	A/C CHASSIS GND
	SPARE		-11	
	SPARE		-12	
	SPARE		-13	
	SPARE		-14	
(P)	SHIELD GROUND		-15 (22)	
(O)	SERVO TACH	(H)	-16 (22)	10J1B-72
(O)		(L)	-17 (22)	10J1B-73
(O)		(X)	-18 (22)	10J2B-44
(O)	SYNCHRO POS	(Y)	-19 (22)	10J2B-45
(O)		(Z)	-20 (22)	10J2B-46
			SHIELD GND	
(I)	SERVO BRAKE (28 V DC)	(H)	-21 (22)	C10J1A-22
(I)	SERVO BRAKE (GND)	(L)	29J1-22 (22)	A/C GND

Interconnect Information
Table 501 (cont)

Trim Elevator Servo

IOB P	Function	Connector Pin	Connects To
(I)	SERVO DRIVE (L)	29J2-1 (20)	C10J2A-60
(I)	(H)	-2 (20)	C10J2A-59
(P)	26 V AC SYNCHRO REF (H)	-3 (22)	C10J1B-44, A/C 26V AC PWR
(P)	26 V AC SYNCHRO REF (L)	-4 (22)	A/C PWR GND
	SPARE	-5	
	SPARE	-6	
	SPARE	-7	
	SPARE	-8	
	SPARE	-9	
(P)	CHASSIS GROUND	-10 (22)	A/C CHASSIS GND
	SPARE	-11	
(I)	CLUTCH EXC (28 V DC)	-12 (22)	APPENDIX D
(I)	(GND)	-13 (22)	A/C GND
	SPARE	-14	
(P)	SHIELD GROUND	-15 (22)	
(O)	SERVO TACH (H)	-16 (22)	C10J1B-72
(O)	(L)	-17 (22)	C10J1B-73
(O)	(X)	-18 (22)	C10J2B-44
(O)	SERVO POS (Y)	-19 (22)	C10J2B-45
(O)	(Z)	-20 (22)	C10J2B-46
		SHIELD GND	
(I)	SERVO BRAKE (28 V DC)	-21 (22)	10J1A-22
(I)	SERVO BRAKE (GND)	29J2-22 (22)	A/C GND

Interconnect Information
Table 501 (cont)

Trim Elevator Servo Bracket

IOB P	Function	Connector Pin	Connects To
(O)	P.DN LIMIT (NC)	29AJ1-1 ------NC	
(O)	P.UP LIMIT (NC)	-2 ------NC	
(I)	P.DN LIMIT (C)	-3 (22)--------------------	28 V DC NO.1 PWR
(I)	P.UP LIMIT (C)	-4 (22)--------------------	28 V DC NO.1 PWR
(O)	P.DN LIMIT (NO)	-5 (22)--------------------	10J1B-19
(O)	P.UP LIMIT (NO)	-6 (22)--------------------	10J1B-16
(I)	TRIM BYPASS	-7 ------NC	
(O)	TRIM BYPASS	29AJ1-8 ------NC	
(O)	P.DN LIMIT (NC)	29AJ2-1 ------NC	
(O)	P.UP LIMIT (NC)	-2 ------NC	
(I)	P.DN LIMIT (C)	-3 (22)--------------------	28 V DC NO.2 PWR
(I)	P.UP LIMIT (C)	-4 (22)--------------------	28 V DC NO.2 PWR
(O)	P.DN LIMIT (NO)	-5 (22)--------------------	C10J1B-19
(O)	P.UP LIMIT (NO)	-6 (22)--------------------	C10J1B-16
(I)	TRIM BYPASS	-7 ------NC	
(O)	TRIM BYPASS	29AJ2-8 ------NC	

Interconnect Information
Table 501 (cont)

Weather Radar RTA

IOB P	Function		Connector Pin	Connects To
(P)	28 VDC POWER		59J1-A (20)	28VDC, A/C PWR
(P)	28 VDC POWER		-B (20)	28VDC, A/C PWR
	RESERVED		-C thru G	
(I)	ADC SELECT *		-H (22)	A/C GND
	SPARE		-J	
(B)	ATTITUDE (ARINC 429)	(H)	-K (22)	C170J1B-F14
(B)	ATTITUDE (ARINC 429)	(L)	-L (22)	C170J1B-F15
	RESERVED		-M thru P	
(I)	REACT COMPENSATION OVERRIDE*		-R (22)	GND (SEE NOTE)
	RESERVED		-S	
(I)	WOW		-T ------NC	
(I)	REMOTE ON *		-U (22)	61J1-N, C61J1-N 65J1B-20, C65J1B-20, E65J1B-20
	RESERVED		-V	
(P)	28 VDC POWER RETURN		-W (20)	A/C PWR GND
(P)	28 VDC POWER RETURN		-X (20)	A/C PWR GND
	RESERVED		-Y	
	RESERVED		-Z	
	SPARE		-AA thru HH	
(B)	ALTERNATE CONTROL BUS	(H)	-a (22)	C61J1-A
(B)	ALTERNATE CONTROL BUS	(L)	-b (22)	C61J1-B
	CONTROL BUS SHIELD		-p (22)	
(B)	PRIMARY CONTROL BUS	(H)	-c (22)	61J1-A
(B)	PRIMARY CONTROL BUS	(L)	-d (22)	61J1-B
	CONTROL BUS SHIELD		-p (22)	
(B)	RT EFIS CONTROL BUS	(H)	-e (22)	C65J1A-1, E65J1A-1
(B)	RT EFIS CONTROL BUS	(L)	-f (22)	C65J1A-2, E65J1A-2
	CONTROL BUS SHIELD		-p (22)	
(B)	LEFT EFIS PICTURE BUS	(H)	-g (22)	65J1B-37
(B)	LEFT EFIS PICTURE BUS	(L)	-h (22)	65J1B-38
	PICTURE BUS SHIELD		59J1-q (22)	

* NOTE: An open on 59J1-R causes the radar to be in React Compensation mode anytime WX is selected. A ground allows React compensation to be manually selected on the controller.

Interconnect Information
Table 501 (cont)

Weather Radar RTA

IOB P	Function	Connector Pin	Connects To
(B)	CENTER EFIS PICTURE BUS (H)	59J1-i (22)	E65J1B-37
(B)	CENTER EFIS PICTURE BUS (L)	-j (22)	E65J1B-38
	PICTURE BUS SHIELD	-q (22)	
(B)	RIGHT EFIS PICTURE BUS (H)	-k (22)	C65J1B-37
(B)	RIGHT EFIS PICTURE BUS (L)	-s (22)	C65J1B-38
	PICTURE BUS SHIELD	-q (22)	
(B)	LEFT EFIS CONTROL BUS(H)	-m (22)	65J1A-51, E65J1A-51
(B)	LEFT EFIS CONTROL BUS (L)	-n (22)	65J1A-52, E65J1A-52
	CONTROL BUS SHIELD	-p (22)	
(B)	AIR DATA (ARINC 429) (L)	-r (22)	DADC 429 OUTPUT
(B)	AIR DATA (ARINC 429) (H)	-t (22)	DADC 429 OUTPUT
	SPARE	59J1-u thru z	

Interconnect Information
Table 501 (cont)

Weather Radar R/T

IOB P	Function		Connector Pin	Connects To
(O)	WX SERIAL DATA #1	(H)	59J2-A (22)	65J1A-51, E65J1A-51
(O)		(L)	-T (22)	65J1A-52, E65J1A-52
(I)	SHIELD GND		-h (22)	
(O)	WX SERIAL DATA #2	(H)	-V (22)	C65J1A-1, E65J1A-1
(O)		(L)	-B (22)	C65J1A-2, E65J1A-2
(I)	SHIELD GND		-g (22)	
(O)	FAULT (NO. 1) (GND/OPEN)		-C (22)	APPX D, APPX C
	SPARE		-D	
	SPARE		-E	
	SPARE		-F	
	SPARE		-G	
	SPARE		-H	
	SPARE		-J	
	SPARE		-K	
(O)	WX VIDEO #2	(H)	-L (22)	APPX D
(O)	WX VIDEO #2	(L)	-M (22)	APPX D
				TIE TO 59J2-g
	SPARE		-N	
(I)	CONTROL PANEL GND		-P (22)	C61J-C
(I)	SIGNAL GND (NO. 1)		-R (22)	SIGNAL GND
(I)	SIGNAL GND (NO. 2)		-S (22)	SIGNAL GND
(I)	SERIAL CONTROL	(H)	-U (22)	C61J1-A
(I)	SERIAL CONTROL	(L)	-n (22)	C61J1-B
	SPARE		-W	
	SPARE		-X	
	SPARE		-Y	
	SPARE		-Z	
	SPARE		-a	
	SPARE		-b	
	SPARE		-c	
	SPARE		-d	
	SPARE		-e	
	SPARE		-f	
(O)	WX VIDEO NO. 1	(H)	-i (22)	APPX D
(O)	WX VIDEO NO. 1	(L)	59J2-j (22)	APPX D

Interconnect Information
Table 501 (cont)

Weather Radar R/T

IOB P	Function	Connector Pin	Connects To
	SPARE	59J2-k	
(O)	TGT ALERT NO. 1 (GND/OPEN)	-m (22)--------------------	APPX D } REF
(O)	FAULT (NO. 2) (GND/OPEN)	-p (22)--------------------	APPX D } APPX C
	SPARE	-q	
	SPARE	-r	
	SPARE	-s	
	SPARE	-t	
	SPARE	-u	
	SPARE	-v	
	SPARE	-w	
	SPARE	-x	
	SPARE	-y	
(O)	TGT ALERT (NO. 2) (GND/OPEN)	-z (22)--------------------	APPX D, REF APPX C
	SPARE	-AA	
	SPARE	-BB	
	SPARE	-CC	
	SPARE	-DD	
	SPARE	-EE	
	SPARE	-GG	
	SPARE	59J2-HH	

NOTE: FOR FURTHER INFORMATION ON THE WEATHER RADAR SYSTEM, PLEASE REF: P-800 SDI, PUB. NO. IB8023137.

Interconnect Information
Table 501 (cont)

Weather Radar Controller No. 1

IOB P	Function	Connector Pin	Connects To
(O)	SERIAL CONTROL (H)	61J1-A (22)	59J1-c
(O)	SERIAL CONTROL (L)	-B (22)	59J1-d
(I)	SHIELD GND	-M (22)	
(P)	CONTROL PANEL GND	-C (20)	CHASSIS GND
(P)	28 VDC POWER	-D (20)	28VDC, A/C PWR
(P)	28 VDC PWR RTN	-E (20)	A/C PWR GND
	SPARE	-F	
(P)	28 V PANEL LIGHTING	-G ------NC	
(P)	5 V PANEL LIGHTING	-H (20)	A/C 5V LIGHTING
(P)	LIGHTING COMMON	-J (20)	A/C LIGHTING GND
(P)	PUSHBUTTON 28V LIGHTING	-K (22)	A/C 28V LIGHTING
	RESERVED	-L	
(O)	R/T ON/OFF (GND/OPEN)	-N (20)	59J1-U, C61J1-N, 65J1B-20, C65J1B-20, E65J1B-20
(I)	FORCED STANDBY *	-P (22)	A/C WOW SWITCH
	SPARE	61J1-R thru U	

Interconnect Information
Table 501 (cont)

Weather Radar Controller No. 1

IOB P	Function	Connector Pin		Connects To
(O)	RANGE A	61J2-A (22)	----------	FIGURE D-4.2
(O)	RANGE B	-B (22)	----------	FIGURE D-4.2
(O)	RANGE C	-C (22)	----------	FIGURE D-4.2
(O)	RANGE D	-D (22)	----------	FIGURE D-4.2
(O)	FPLN SELECTED (GND/OPEN)	-E (22)	----------	FIGURE D-4.2
(I)	WX INT (H)	-F (22)	----------	131J1-2
(O)	WX INT (W)	-G (22)	----------	131J1-15
(I)	WX INT (L)	-H (22)	----------	131J1-3
(I)	PROGRAM RANGE A	-J (22)	----------	A/C WIRING APPX C
(I)	PROGRAM RANGE B	-K (22)	----------	A/C WIRING APPX C
(I)	PROGRAM RANGE C	-L (22)	----------	A/C WIRING APPX C
(I)	PROGRAM RANGE D	-M (22)	----------	A/C WIRING APPX C
(I)	PROGRAM RANGE COMMON	-N (22)	----------	A/C WIRING APPX C
	RESERVED	-P		
(O)	ID PROG COMMON	-R	------	NC
(I)	ID PROG	-S	------	NC
	SPARE	61J2-T thru U		

Interconnect Information
Table 501 (cont)

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Symbol Generator No. 1

IOB P	Function		Connector Pin		Connects To	
(B)	WX CNTRL	(H)	65J1A-1	------NC		
(B)	DATA #2	(L)	-2	------NC		
(P)	28 V DC PWR		-3	(NOTE 3)	A/C DC PWR	
(P)	PWR GND		-4	(NOTE 3)	A/C DC PWR GND	
(P)	SIGNAL GND		-5	(22)	SIGNAL GND	
	RESERVED		-6			
	RESERVED		-7			
	RESERVED		-8			
	RESERVED		-9			
	SPARE		-10			
(I)	SG I.D. A		-11	(22)	65J1B-50	REF APPX C
(I)	B		-12	------NC		
(O)	BC VALID (GND/OPEN)		-13	(22)	134J1A-97, C134J1A-97	
(I)	TCAS INSTALLED*		-14	(22)	APPX L	
(I)	LX POWER ON*		-15	(22)	APPX F, APPX C	
(B)	SYS ASCB PRIMARY BUS	(H)	-16	(22)	SEE SECTION 3.3	
(B)	SYS ASCB PRIMARY BUS	(L)	-17	(22)		
			-18			
	RESERVED		-19			
(I)	P870 INSTALLED*		-20	(22)	SIGNAL GND	
	SPARE		-21		APPX C	
(B)	SG/DU BUS A	(H)	-22	(22)	SEE APPENDIX A	
(B)		(L)	-23	(22)		
	RESERVED		-24			
(I)	MACH TAPE DISABLE*		-25	------NC		
(I)	ILS/MLS* #1		-26	(22)	APPX D, APPX C	
(I)	FPLN SEL*		-27	(22)	APPENDIX D	REF APPX C
(I)	RANGE SELECT A		-28	(22)	APPENDIX D	
(I)	RANGE SELECT B		-29	(22)	APPENDIX D	
(I)	RANGE SELECT C		-30	(22)	APPENDIX D	
(I)	RANGE SELECT D		-31	(22)	APPENDIX D	
(B)	ADF NO. 1, ARINC 429	(H)	-32	(22)	ADF NO. 1, ARINC 429	
(B)		(L)	-33	(22)		
(B)	DME NO. 1 ARINC 429	(H)	-34	(22)	DME NO. 1, ARINC 429	
(B)	DME NO. 1 ARINC 429	(L)	-35	(22)		
(B)	TA/RA NO. 1 ARINC 429	(H)	-36	(22)	APPX L	
(B)	TA/RA NO. 1 ARINC 429	(L)	65J1A-47	(22)	APPX L	

Interconnect Information
Table 501 (cont)

Symbol Generator No. 1

IOB P	Function	Connector Pin	Connects To
(B)	ARINC 429(H)	65J1A-37 ------NC	
(B)	ARINC 429 (L)	-38 ------NC	
(B)	DADC NO. 1 ARINC 429 (H)	-39 (22)	9J1B-26
(B)	DADC NO. 1 ARINC 429 (L)	-40 (22)	9J1B-27
(B)	VOR NO. 1 ARINC 429 (L)	-41 (22)	VOR NO. 1
(B)	VOR NO. 1 ARINC 429 (H)	-42 (22)	ARINC 429
(B)	MLS/ILS NO. 1 (H)	-43 (22)	APPENDIX D
(B)	ARINC 429 (L)	-44 (22)	
(B)	SG/DU WXR BUS (H)	-45 (22)	SEE APPENDIX A
(B)	SG/DU WXR BUS (L)	-46 (22)	
(B)	IRS NO. 1 (H)	-48 (22)	170J1B-E5
(B)	ARINC 429 (L)	-49 (22)	170J1B-E6
(O)	PROG PIN GND OUT	-50	
(B)	P-870 WX (H)	-51 (22)	59J1-m, E65J1A-51
(B)	CNTL DATA #1 (L)	-52 (22)	59J1-n, E65J1A-52
(B)	LX OR TACAN ARINC 429 (H)	-53 (22)	APPX F, APPX M
(B)	LX OR TACAN ARINC 429 (L)	-54 (22)	APPX F, APPX M
(B)	BC ASCB PRIMARY (H)	-55 (22)	SEE SECTION 3.3
(B)	BC ASCB PRIMARY (L)	-56 (22)	
	SPARE	-57	
	RESERVED	-58	
(I)	SG PWR DN*	-59 (22)	A/C WIRING, 65J1A-60, C65J1A-60, E65J1A-60, 134J1A-41, C134J1A-41, APPENDIX B & C
(I)	SG1 REV*	65J1A-60 (22)	A/C WIRING, E65J1A-60, C65J1A-60, 134J1A-41, C134J1A-41, 65J1A-59, APPENDIX B & C

Interconnect Information
Table 501 (cont)

Symbol Generator No. 1

IOB P	Function	Connector Pin	Connects To
(I)	SG2 REV*	65J1A-61 (22)-------------------	A/C WIRING, E65J1A-61, C65J1A-61, 134J1A-42, C134J1A-42, C65J1A-59, APPENDIX B & C
(I)	SG3 REV*	-62 (22)-------------------	A/C WIRING, E65J1A-62, C65J1A-62, 134J1A-43, C134J1A-43, E65J1A-59, APPENDIX B & C
(I)	DU1 REV*	-63 (22)-------------------	A/C WIRING, E65J1A-63, C65J1A-63, 134J1A-44, C134J1A-44, APPENDIX B & C
(I)	DU3 REV*	-64 (22)-------------------	A/C WIRING, E65J1A-64, C65J1A-64, 134J1A-46, C134J1A-46, 132J1-22, APPENDIX B & C
(I)	DU4 REV*	65J1A-65 (22)-------------------	A/C WIRING, E65J1A-65, C65J1A-65, 134J1A-47, C134J1A-47, 133J1-22, APPENDIX B & C

Interconnect Information
Table 501 (cont)

Symbol Generator No. 1

IOB P	Function	Connector Pin	Connects To
(I)	DU6 REV*	65J1A-66 (22)--------------------	A/C WIRING, E65J1A-66, C65J1A-66, 134J1A-49, C134J1A-49, APPENDIX B & C
(I)	LX INSTALLED*	65J1A-67 (22)--------------------	APPX F, APPX C

Interconnect Information
Table 501 (cont)

Symbol Generator No. 1

IOB P	Function	Connector Pin	Connects To
(I)	BC TEST REQUEST NO.1*	65J1B-1 (22)	C65J1B-1, E65J1B-1, 134J1A-96
(I)	BC TEST REQUEST NO. 2*	-2 (22)	C65J1B-2, E65J1B-2, C134J1A-96
	RESERVED	-3	
	RESERVED	-4	
(P)	CHASSIS GND	-5 (22)	CHASSIS GND
(P)	28 V DC PWR (BC) (H)	-6 (22)	A/C 28 VDC PWR
(P)	(L)	-7 (22)	A/C PWR GND
(B)	IRS #3 ARINC 429 (H)	-8 (22)	E170J1B-E5
(B)	(L)	-9 (22)	E170J1B-E6
	SPARE	-10	REF APPX C
(I)	BC I.D. A	-11 (22)	65J1B-50 REF APPX C
(I)	B	-12 ------NC	REF APPX C
(B)	LASERTRAK ARINC 429 (H)	-13 (22)	198J1-24 (OPT)
(B)	LASERTRAK ARINC 429 (L)	-14 (22)	198J1-25 (OPT)
	SPARE	-15	
(B)	SYS ASCB (H)	-16 (22)	REF SEC. 3.3
(B)	SECONDARY BUS (L)	-17 (22)	
	RESERVED	-18	
	RESERVED	-19	
(I)	WX ON*	-20 (22)	59J1-U, 61J1-N, C61J1-N, APPX C C65J1B-20, E65J1B-20,
	RESERVED	-21	
(B)	SG/DU BUS B (H)	-22 (22)	SEE APPENDIX A
(B)	(L)	-23 (22)	SEE APPENDIX A
(I)		-24	
(I)		-25	
(I)	ILS/MLS* #2	-26 (22)	APPENDIX D,
(I)	SG ID C	-27------NC	REF. APPX C
	SPARE	-28	
	RESERVED	-29	
(B)	RESERVED	-30	
(B)	RESERVED	-31	
(B)	ADF NO. 2 ARINC 429 (H)	-32 (22)	ADF NO. 2 ARINC 429
(B)	ADF NO. 2 ARINC 429 (L)	-33 (22)	ADF NO. 2 ARINC 429
(B)	DME NO. 2 ARINC 429 (H)	-34 (22)	DME NO. 1 ARINC 429
(B)	DME NO. 2 ARINC 429 (L)	-35 (22)	DME NO. 1 ARINC 429
	RESERVED	65J1B-36	

Interconnect Information
Table 501 (cont)

Symbol Generator No. 1

IOB P	Function	Connector Pin	Connects To
(B)	WX VIDEO DATA (H)	65J1B-37 (22)	59J1-g
(B)	(L)	-38 (22)	59J1-h
(B)	DADC NO. 2 (H)	-39 (22)	E65J1B-39, C9J1B-70
(B)	ARINC 429 (L)	-40 (22)	E65J1B-40, C9J1B-71
(B)	VOR NO. 2 ARINC 429 (H)	-41 (22)	VOR NO. 2 ARINC 429
(B)	VOR NO. 2 ARINC 429 (L)	-42 (22)	
(B)	MLS/ILS NO. 2 (H)	-43 (22)	APPENDIX D
(B)	ARINC 429 (L)	-44 (22)	
	RESERVED	-45	
(B)	BC ASCB SECONDARY (H)	-46 (22)	SEE SECTION 3.3
(B)	(L)	-47 (22)	
(B)	IRS NO. 2 (H)	-48 (22)	C170J1B-E5
(B)	ARINC 429 (L)	-49 (22)	C170J1B-E6
(O)	PROG PIN GND OUT	-50 (22)	1 (triangle)
(O)	SG VALID OUT (GND/OPEN)	-51 ------NC	
(O)	SG OVERTEMP OUT (GND/OPEN)	-52 (22)	134J1A-51, C134J1A-51, SEE APPENDIX C
(O)	BELOW DH OUT (GND/OPEN)	-53	
(I)	WEIGHT ON WHEELS*	-54 (22)	A/C WIRING
(I)	JOYSTICK FORE*	-55 (22)	APPENDIX D
(I)	JOYSTICK AFT*	-56 (22)	APPENDIX D
(I)	JOYSTICK LT*	-57 (22)	APPENDIX D
(I)	JOYSTICK RT*	-58 (22)	APPENDIX D
(I)	JOYSTICK ENTER*	-59 (22)	APPENDIX D
(I)	JOYSTICK CLEAR*	-60 (22)	APPENDIX D
	SPARE	-61	
	SPARE	-62	
	RESERVED	-63	
	RESERVED	-64	
(O)	CS HDG SRC DISPLAYED (GND/OPEN)	-65 (22)	A/C WIRING
(I)	MAINTENANCE TEST ENABLE GND	-66 (22)	APPENDIX D
	RESERVED	65J1B-67	

REF APPX C

Interconnect Information
Table 501 (cont)

Display Controller No. 1

IOB P	Function	Connector Pin	Connects To
(P)	28 V DC POWER	115J1-A (NOTE 3)	A/C 28 V DC
(P)	28 V DC POWER RTN	-B (NOTE 3)	A/C 28 V DC RTN
(P)	PANEL DIMMING CONTROL (H)	-C (22)	A/C 5 V DC
(P)	PANEL DIMMING CONTROL (L)	-D (22)	LIGHTING CNTL
(P)	SIG GROUND	-E (22)	A/C SIG GND
(P)	CHASSIS GROUND	-F (22)	CHASSIS GND
	SPARE	-G	
	SPARE	-H	
	SPARE	-J	
	SPARE	-K	
	SPARE	-L	
	RESERVED	-M	
(I)	ANNUNCIATOR DIMMING (L)	-N (22)	A/C 5 V DC
(I)	ANNUNCIATOR DIMMING (H)	-P (22)	ANNUN DIMMING
(B)	SYS ASCB PRIMARY BUS (H)	-R (22)	SEE SECTION 3.3
(B)	(L)	-S (22)	
	RESERVED TEST	-T	
	RESERVED TEST	-U	
(P)	ANNUNCIATOR PWR (H)	-V (22)	A/C 28 V DC
(P)	(L)	-W (22)	POWER GND
(I)	DAY/NIGHT (OPEN/28 V DC)	-X (22)	DAY/NIGHT ANNUN DIMMING DISCRETE,APPX C
	RESERVED TEST	-Y	
	SPARE	-Z	
(I)	FGC LEFT PRIORITY (28V/OPEN)	-a (22)	10J1A-37, 11J1-70, C115J1-a, APPX C
(I)	FGC RIGHT PRIORITY (28V/OPEN)	-b (22)	C10J1A-37, 11J2-70, C115J1-b, APPX C
(I)	ARINC ILS INSTALLED*	-c (22)	A/C WIRING APPX K REF APPX C
(I)	MLS INSTALLED*	-d (22)	
(I)	SPARE	115J1-e (22)	

Interconnect Information
Table 501 (cont)

Display Controller No. 1

IOB P	Function	Connector Pin	Connects To	
(I)	WINDSHEAR INSTALLED*	115J1-f------NC		REF APPX C
(I)	PILOT/COPILOT*	-g------NC		
(I)	IRS TRIPLEX/DUAL*	-h------NC		
(I)	LTRK INSTALLED*	-i (22)--------------------	A/C WIRING	
(I)	TCAS INSTALLED*	-j (22)--------------------	APPX L	
(I)	WOW*	-k (22)--------------------	A/C WIRING	
(I)	TCAS RA	-m (22)--------------------	APPX L	
(I)	RESERVED SPARE	-n		
(I)	EMER CHECKLIST SELECT*	-p (22)--------------------	C115J1-p, 134J1A-103, C134J1A-103	REF APX C
(I)	CHECKLIST ENABLE*	-q (22)--------------------	C115J1-q, 134J1A-104, C134J1A-104	
	SPARE	-r		
	SPARE	-s		
	SPARE	-t		
	SPARE	-u		
(O)	SUBTEST SELECT (GND/OPEN)	-v (22)--------------------	11J1-35, 11J2-35, C115J1-v	REF APPX C
	SPARE	-w		
	SPARE	-x		
	SPARE	-y		
(O)	FGC RIGHT PRIORITY SELECT (GND/OPEN)	-z (22)--------------------	11J1-62	
(I)	MAINT. TEST ENABLE*	-AA (22)-------------------	APPENDIX D	
(I)	CALIB/TEST	-BB ------NC	REF APPENDIX C	
	SPARE	-CC		
(I)	LAMP TEST*	-DD (22)-------------------	A/C WIRING, REF APPENDIX C	
	SPARE	-EE		
(O)	ILS/MLS SELECT OUT (GND/OPEN)	-FF (22)-------------------	APPENDIX D, REF APPENDIX C	
(O)	NAV RETUNE	-GG (22)-------------------	APPX K, REF APPX C	
(O)	FGC LEFT PRIORITY SELECT (GND/OPEN)	115J1-HH (22)-------------------	11J1-61	

Interconnect Information
Table 501 (cont)

Display Controller No. 1

IOB P	Function		Connector Pin	Connects To
(B)	SYS ASCB	(H)	115J2-A (22)	SEE SECTION 3.3
(B)	SECONDARY BUS	(L)	-B (22)	
	SPARE		-C	
	SPARE		-D	
	SPARE		-E	
	SPARE		-F	
	SPARE		-G	
	SPARE		-H	
	SPARE		-J	
	SPARE		-K	
(I)		(H)	-L (22)	9J1A-35
(O)	BARO SET	(W)	-M (22)	9J1A-36
(I)		(L)	-N (22)	9J1A-37
			SHIELD GND	
	SPARE		-P	
(I)	PHOTO SENSOR #1	(H)	-R (22)	130J1-28, 131J1-29
(I)		(L)	-S (22)	130J1-41, 131J1-42
(I)	PHOTO SENSOR #2	(H)	-T (22)	130J1-29, 131J1-28
(I)		(L)	-U (22)	130J1-42, 131J1-41
(I)	PHOTO SENSOR #3	(H)	-V (22)	130J1-26, C130J1-26, 131J1-26, C131J1-26, 132J1-26, 133J1-26, C115J2-V, REMOTE LT SENSOR (H)
(I)	PHOTO SENSOR #3	(L)	-W (22)	130J1-27, C130J1-27, 131J1-27, C131J1-27, 132J1-27, 133J1-27, C115J2-W, REMOTE LT SENSOR (L)
	SPARE		115J2-X	

Interconnect Information
Table 501 (cont)

Display Controller No. 1

IOB P	Function	Connector Pin	Connects To
	SPARE	115J2-Y	
	SPARE	-Z	
	SPARE	-a	
	SPARE	-b	
(I)	CRS SEL #1 (H)	-c (24)	11J1-32, C115J2-c
(I)	(L)	-d (24)	11J1-33, C115J2-d
(I)	CRS SEL #1 SYNC (GND/OPEN)	-e (24)	11J1-36, C115J2-e
	SPARE	-f	
(I)	CRS SEL #2 (H)	-g (24)	11J2-32, C115J2-g
(I)	(L)	-h (24)	11J2-33, C115J2-h
(I)	CRS SEL #2 SYNC (GND/OPEN)	115J2-j (24)	11J2-36, C115J2-j

Interconnect Information
Table 501 (cont)

CDU No. 1

IOB P	Function		Connector Pin	Connects To
	SPARE		120J1-A	
(P)	+28 V DC POWER		-B (NOTE 3)	A/C 28 V DC PWR
(P)	POWER RETURN		-C (NOTE 3)	A/C POWER GND
(I)	PANEL LIGHTING RTN		-D (22)	A/C POWER GND
	SPARE		-E	
(P)	28 V ANNUN LIGHTING		-F (20)	A/C 28 V DC PWR
(P)	CHASSIS GND		-G (20)	A/C CHASSIS GND
(P)	ANNUN LIGHTING RTN		-H (22)	A/C LTNG GND
(P)	5V KEY BOARD PANEL LTNG		-J (22)	A/C LTNG CNTL
	RESERVED		-K	
	SPARE		-L	
(B)	RS422 XMTR -	(H)	-M (22)	121J1A-55
(B)	(DATA) NAV COMP	(L)	-N (22)	121J1A-56
			SHIELD GND	
(B)	RS422 XMTR -	(H)	-P (22)	121J1B-7
(B)	(CNTL) NAV COMP	(L)	-R (22)	121J1B-8
			SHIELD GND	
(B)	RS422 RCVR -	(H)	-S (22)	121J1A-65
(B)	(DATA) NAV COMP	(L)	-T (22)	121J1A-66
(B)	RS422 RCVR -	(H)	-U (22)	121J1B-32
(B)	(CNTL) NAV COMP	(L)	V (22)	121J1B-33
(B)	RS422 RCVR -	(H)	-W (22)	121J1B-35
(B)	(CLK) NAV COMP	(L)	-X (22)	121J1B-36
(B)	RS422 XMTR -	(H)	-Y (22)	122J1A-103
(B)	(DATA) PERF COMP	(L)	-Z (22)	122J1A-104
			SHIELD GND	
(B)	RS422 XMTR -	(H)	-a (22)	122J1A-105
(B)	(CNTL) PERF COMP	(L)	-b (22)	122J1A-106
			SHIELD GND	
(B)	RS422 RCVR -	(H)	-c (22)	122J1A-101
(B)	(DATA) PERF COMP	(L)	-d (22)	122J1A-102
(B)	RS422 RCVR -	(H)	-e (22)	122J1A-99
(B)	(CNTL) PERF COMP	(L)	-f (22)	122J1A-100
(B)	RS422 RCVR -	(H)	-g (22)	122J1A-97
(B)	(CLK) PERF COMP	(L)	-h (22)	122J1A-98
(O)	CDU VALID (GND/OPEN)		120J1-i (22)	121J1B-100, 134J1A-75, C134J1A-75

Interconnect Information
Table 501 (cont)

CDU No. 1

IOB P	Function	Connector Pin		Connects To
	SPARE	120J1-j		
	SPARE	-k		
(O)	R PHOTO SENSOR OUT	-m	(22)--------------------	TEST ONLY
(O)	L PHOTO SENSOR OUT	-n	(22)--------------------	TEST ONLY
	SPARE	-p		
(I)	DIM CALIBRATION	-q	(22)--------------------	TEST ONLY
	SPARE	-r		
(I)	LAMP TEST*	-s	(22)--------------------	A/C LAMP TEST, REF APPX C
	SPARE	-t		
	SPARE	-u		
(I)	ANNUN LIGHTING BRIGHT/DIM (OPEN/28V)	-v	(22)--------------------	A/C WIRING, REF APPX C
(I)	ANNUN LIGHTING DIM CONTROL (0-28V)	-w	(22)--------------------	A/C WIRING
	SPARE	-x		
	SPARE	-y		
	SPARE	-z		
	SPARE	-AA		
	SPARE	-BB		
	SPARE	-CC		
	SPARE	-DD		
(I)	SELF TEST ENBL*	-EE	------NC	
	SPARE	-FF		
	SPARE	-GG		
	SPARE	120J1-HH		

Interconnect Information
Table 501 (cont)

Navigation Computer No. 1

IOB P	Function	Connector Pin	Connects To
(P)	AIRCRAFT BATT +28V	121J1A-1 (20)	A/C 28 V DC BATTERY DIRECT
	SPARE	-2	
(P)	+28 V DC POWER	-3 (NOTE 3)	A/C 28 V DC PWR
(P)	POWER RETURN	-4 (NOTE 3)	A/C GND
(P)	CHASSIS GROUND	-5 (20)	A/C CHASSIS GND
(P)	SIGNAL GROUND	-6 (20)	A/C SIGNAL GND
(P)	AIRCRAFT BATT RETURN	-7 (20)	A/C POWER GND
	RESERVED	-8	
	RESERVED	-9	
(B)	SYS ASCB PRI BUS (H)	-10 (22)	REF. SECT 3.3
(B)	SYS ASCB PRI BUS (L)	-11 (22)	
	RESERVED	-12	
	RESERVED	-13	
(I)	DISC CNTL INPUT - NO CLOCK ASCB*	-14 (22)	SIG GND, REF. APPX C
	SPARE	-15	
(B)	ARINC 429 RCVR - (H)	-16 (22)	APPX D
(B)	MLS/ILS PRIMARY (L)	-17 (22)	APPX D
(B)	ARINC 429 RCVR - (H)	-18 (22)	DME NO. 1, ARINC 429
(B)	DME PRIMARY (L)	-19 (22)	
(B)	RS 422 RCVR - (H)	-20 NC	
(B)	DME PRIMARY (L)	-21 NC	
	RESERVED	-22	
(B)	ARINC 429 RCVR - (H)	-23 (22)	C149J1-24 (OPT)
(B)	LTS #2 (L)	-24 (22)	C149J1-25 (OPT)
	RESERVED	-25	
(B)	ARINC 429 RCVR - (H)	-26 (22)	149J1-38 (OPT)
(B)	LTS#1 (L)	-27 (22)	149J1-39 (OPT)
(B)	RS422 RCVR - (H)	-28 (22)	123J1-T, C121J1A-28
(B)	DATA LOADER (DATA) (L)	121J1A-29 (22)	123J1-S, C121J1A-29

Interconnect Information
Table 501 (cont)

Navigation Computer No. 1

IOB P	Function		Connector Pin	Connects To
(B)	RS422 RCVR -	(H)	121J1A-30 ------NC	
(B)	NAV PRIMARY	(L)	-31 ------NC	
(B)	ARINC 429 RCVR -	(H)	-32 (22)	VOR NO. 1,
(B)	NAV PRIMARY	(L)	-33 (22)	ARINC 429
	RESERVED		-34	
(B)	AFIS/ACRS	(H)	-35 (22)	DMUJ1-18 APPX
(B)	RX BUS	(L)	-36 (22)	DMUJ1-19 D
	RESERVED		-37	
	RESERVED		-38	
	RESERVED		-39	
(B)	RS422 XMTR -	(H)	-40 ------NC	
(B)	GENERAL BUS #3	(L)	-41 ------NC	
	RESERVED		-42	
(B)	ARINC 429 REC -	(H)	-43 (22)	VOR NO. 2,
(B)	NAV SECONDARY	(L)	-44 (22)	ARINC 429
(B)	ARINC 429 XMTR	(H)	-45 (22)	C170J1B-C5, E170J1B-A8
(B)	GEN BUS SECONDARY	(L)	-46 (22)	C170J1B-C6, E170J1B-A9
	SHIELD GND			

NOTE: GEN BUS SECONDARY OUTPUT ALSO GOES TO THE FOLLOWING: ADF #2, COMM #2, DME #2, ILS #2, MLS #2, VOR #2, AND XPDR #2

IOB P	Function		Connector Pin	Connects To
(I)	HIGH/LOW* SPEED BUS-LTS#1		-47 -----NC	APPX C
(I)	HIGH/LOW* SPEED BUS-LTS#2		-48 -----NC	APPX C
(I)	HIGH/LOW* SPEED BUS-LTS#3		-49 -----NC	APPX C
(B)	ARINC 429 XMTR	(H)	-50 (22)	149J1-18 (OPT) C149J1-26 (OPT) 170J1B-A8 DMUJ1-20 (APPX D)
(B)	GEN BUS PRIMARY	(L)	121J1A-51 (22)	149J1-37 (OPT) C149J1-27 (OPT) 170J1B-A9 DMUJ1-21 (APPX D)
	SHIELD GND			

NOTE: GEN BUS PRIMARY OUTPUT ALSO GOES TO THE FOLLOWING: ADF #1, COMM #1, DME #1, ILS #1, MLS #1, VOR #1, AND XPDR #1

Interconnect Information
Table 501 (cont)

Navigation Computer No. 1

IOB P	Function		Connector Pin	Connects To
(B)	RS 422 XMTR -	(H)	121J1A-52 (22)	123J1-H, C121J1A-52
(B)	DATA LOADER	(L)	-53 (22)	123J1-G, C121J1A-53
		(DATA)	SHIELD GND	
	SPARE		-54	
(B)	RS 422 RCVR -	(H)	-55 (22)	120J1-M
(B)	(DATA) CDU	(L)	-56 (22)	120J1-N
	SPARE		-57	
	RESERVED		-58	
	RESERVED		-59	
	RESERVED		-60	
	RESERVED		-61	
	RESERVED		-62	
	RESERVED		-63	
	RESERVED		-64	
(B)	RS 422 XMTR -	(H)	-65 (22)	120J1-S
(B)	(DATA) CDU	(L)	-66 (22)	120J1-T
			SHIELD GND	
	RESERVED		121J1A-67	

Interconnect Information
Table 501 (cont)

Navigation Computer No. 1

IOB P	Function		Connector Pin		Connects To
	RESERVED		121J1B-1		
	RESERVED		-2		
	SPARE		-3		
	RESERVED		-4		
	RESERVED		-5		
	SPARE		-6		
(B)	RS 422 CDU CNTL RCVR	(H)	-7	(22)	120J1-P
(B)		(L)	-8	(22)	120J1-R
(O)	TAG SYNC		-9	(22)	C121J1B-34
(B)	RS 232 RCVR		-10	(22)	FLT TEST ONLY
	RETURN	PORT C	-11	(22)	FLT TEST ONLY
(B)	RS 232 XMTR		-12	(22)	FLT TEST ONLY
(B)	RS 232 RCVR		-13	(22)	FLT TEST ONLY (2)
	RETURN	PORT A	-14	(22)	FLT TEST ONLY (7)
(B)	RS 232 XMTR		-15	(22)	FLT TEST ONLY (3)
(O)	CDU SYNC		-16	(22)	C121J1B-48
(B)	RS 232-RCVR		-17	(22)	FLIGHT TEST ONLY
	RETURN	PORT B	-18	(22)	FLIGHT TEST ONLY
(B)	RS 232-XMTR		-19	(22)	FLIGHT TEST ONLY
(B)	RS 422 XMTR - DATA	(H)	-20	(22)	123J1-K, C121J1B-20
(B)	LOADER (CLK)	(L)	-21	(22)	123J1-J, C121J1B-21
		SHIELD GND			
(B)	ARINC 429 RCVR -	(H)	-22	(22)	DME NO. 2, ARINC 429
(B)	DME SECONDARY	(L)	-23	(22)	DME NO. 2, ARINC 429
(B)	RS 422 RCVR-	(H)	-24	NC	
(B)	DME SECONDARY	(L)	-25	NC	
	RESERVED		-26		
	RESERVED		-27		
(B)	SYS ASCB SEC BUS	(H)	-28	(22)	REF SECT 3.3
	RESERVED		-29		
	RESERVED		-30		
(B)	SYS ASCB SEC BUS	(L)	-31	(22)	REF SECT 3.3
(B)	RS 422 XMTR	(H)	121J1B-32	(22)	120J1-U

Interconnect Information
Table 501 (cont)

Navigation Computer No. 1

IOB P	Function		Connector Pin		Connects To
(B)	CNTL-CDU	(L)	121J1B-33	(22)	120J1-V
	SHIELD GND				
(I)	TAG SYNC		-34	(22)	C121J1B-9
(B)	RS 422 XMTR CLK-CDU	(H)	-35	(22)	120J1-W
(B)		(L)	-36	(22)	120J1-X
	SHIELD GND				
(O)	TRUE/MAG SELECT (GND/OPEN)		-37	(22)	REF APPX C
(O)	ONSIDE TUNING CNTL (AUTOTUNE)(GND/OPEN)		-38	(22)	NAV CONT #1, C121J1B-54
(O)	REMOTE TUNING CONTROL (GND/OPEN)		-39	NC	
(O)	LAT WPT ALERT (GND/OPEN)		-40	(22)	REF APPX C
(O)	VERT WPT ALERT (GND/OPEN)		-41	(22)	REF APPX C
(O)	DEAD RECKONING (GND/OPEN)		-42	(22)	REF APPX C
(O)	OFF SET ALERT (GND/OPEN)		-43	(22)	REF APPX C
(O)	APPR SENSITIVITY (GND/OPEN)		-44	(22)	REF APPX C
(O)	INDEP OP (GND/OPEN)		-45	(22)	REF APPX C
(O)	CDU MSG (GND/OPEN)		-46	NC	
(O)	DGRADE ACCURACY (GND/OPEN)		-47	(22)	REF APPX C
(I)	CDU SYNC		-48	(22)	C121J1B-16
(O)	NAV COMP VALID (GND/OPEN)		-49	(22)	REF APPX C
	SPARE		-50		
	SPARE		-51		
(O)	RESERVED		-52		
(O)	VERTICAL TRACK AURAL ALERT (GND/OPEN)		-53	NC	
(O)	CROSS SIDE TUNING CONTROL (AUTOTUNE) (GND/OPEN)		-54	(22)	C121J1B-38, NAV CONT #2
	RESERVED		-55		
	RESERVED		-56		
(B)	ARINC 429 RCVR-	(H)	-57	NC	
(B)	LTS#3	(L)	-58	NC	
(I)	LTS#1 NUMBER BIT #1		-59	NC	
(I)	LTS#1 NUMBER BIT #2		-60	NC	
(I)	LTS#2 NUMBER BIT #1		-61	NC	
(I)	LTS#2 NUMBER BIT #2		-62	NC	
(I)	LTS#3 NUMBER BIT #1		-63	NC	
(I)	LTS#3 NUMBER BIT #2		-64	NC	
(I)	SDI #3		121J1B-65	NC	

Interconnect Information
Table 501 (cont)

Navigation Computer No. 1

IOB P	Function	Connector Pin		Connects To	
(I)	CROSSFILL ENABLE*	121J1B-66	------NC		
(I)	VER B ASCB*	-67	(22)------------------	SIG GND	
(I)	FUEL FLOW CONFIG ID0	-68	------NC		
(I)	FUEL FLOW CONFIG ID1	-69	------NC		
(I)	FUEL FLOW CONFIG ID2	-70	------NC		
(I)	OPERATIONAL MODE ID 0	-71	(22)------------------	SIG GND	REF APPX C
(I)	WOW*	-72	(22)------------------	A/C WIRING	
(I)	PERF COMP INSTALLED*	-73	(22)------------------	SIG GND	
(I)	LTS #1 CONFIG	-74	------NC		
(I)	LTS #1 CONFIG	-75	------NC		
(I)	LTS #1 CONFIG	-76	------NC		
(I)	LTS #2 CONFIG	-77	------NC		
(I)	LTS #2 CONFIG	-78	------NC		
(I)	LTS #2 CONFIG	-79	------NC		
	RESERVED	-80			
	RESERVED	-81			
	RESERVED	-82			
(I)	DL CONNECTED*	-83	(22)------------------	123J1-E	
(I)	RADIO CONFIG ID0	-84	(22)------------------	A/C GND	
(I)	RADIO CONFIG ID1	-85	------NC		
(I)	RADIO CONFIG ID2	-86	------NC		
(I)	MAINT TEST ENABLE*	-87	(22)------------------	APPX D	
(I)	ILS*/MLS SELECT	-88	(22)------------------	APPX D	
(I)	LTS#3 CONFIG	-89	(22)------------------		
(I)	LTS#3 CONFIG	-90	(22)------------------		
(I)	LTS#3 CONFIG	-91	(22)------------------		
(I)	OPERATIONAL MODE ID 1	-92	(22)------------------	SIG GND	
(I)	INITIATED XMIT*	-93	------NC		
(I)	INITIATED REC*	-94	------NC		
(I)	DME SCAN TYP*	-95	(22)------------------	A/C GND	
(I)	RADIO BUS TYPE (OPEN/GND)	-96	------NC		
(I)	SINGLE ASCB*	-97	------NC		
(I)	SDI#1=LEFT	-98	(22)------------------	GND	
(I)	SDI#2=RIGHT	121J1B-99	------NC		

Interconnect Information
Table 501 (cont)

Navigation Computer No. 1

IOB P	Function	Connector Pin	Connects To	
(I)	CDU VALID*	121J1B-100 (22)	120J1-i, 134J1A-75, C134J1A-75	APX C
(I)	TRUE REF SELECTED*	-101 (22)		
(I)	AFIS INSTALLED*	-102 (22)		
(I)	OVERSPEED PROTECTION DISABLE*	-103 ------NC		
(I)	RS 422 OFFSIDE VOR CONNECTED*	-104 ------NC		
(I)	NAV/DME MANUAL* TUNE SEC	-105 (22)	SEC NAV/DME AUTO TUNE DISABLE SW	
(I)	NAV/DME MANUAL* TUNE PRI	121J1B-106 (22)	PRI NAV/DME AUTO TUNE DISABLE SW	

Interconnect Information
Table 501 (cont)

Performance Computer No. 1

IOB P	Function	Connector Pin	Connects To
(P)	CHASSIS GROUND	122J1A-1 (22)	A/C GND
(P)	SIGNAL GROUND	-2 (22)	A/C SIG GND
(P)	SERVO POWER (H)	-3 (NOTE 3)	28 V DC
(P)	SERVO POWER (H)	-4 (NOTE 3)	28 V DC
(P)	CLUTCH POWER (H)	-5 (NOTE 3)	28 V DC
(P)	CLUTCH POWER (H)	-6 (NOTE 3)	28 V DC
(P)	COMPUTER POWER (H)	-7 (NOTE 3)	28 V DC
(P)	COMPUTER POWER (H)	-8 (NOTE 3)	28 V DC
(P)	SERVO POWER (L)	-9 (NOTE 3)	A/C PWR GND
(P)	SERVO POWER (L)	-10 (NOTE 3)	A/C PWR GND
(P)	CLUTCH POWER (L)	-11 (NOTE 3)	A/C PWR GND
(P)	CLUTCH POWER (L)	-12 (NOTE 3)	A/C PWR GND
(P)	COMPUTER POWER (L)	-13 (NOTE 3)	A/C PWR GND
(P)	COMPUTER POWER (L)	-14 (NOTE 3)	A/C PWR GND
(O)	SERVO NO. 1 DRIVE (H)	-15 (20)	L128P1-B, C122J1A-15
(O)	SERVO NO. 1 DRIVE (L)	-16 (20)	L128P1-C, C122J1A-16
(O)	SERVO NO. 2 DRIVE (H)	-17 (20)	R128P1-C, C122J1A-17
(O)	SERVO NO. 2 DRIVE (L)	-18 (20)	R128P1-B, C122J1A-18
	RESERVED	-19	
	RESERVED	-20	
	RESERVED	-21	
	RESERVED	-22	
(O)	SERVO CLUTCH DRIVE NO. 1	-23 (20)	L128P1-E, C122J1A-23, 134J1B-30, C134J1B-30
(O)	SERVO CLUTCH DRIVE NO. 2	-24 (20)	R128P1-E, C122J1A-24, 134J1B-32, C134J1B-32
	RESERVED	-25	
	RESERVED	-26	
	SPARE	-27	
	SPARE	-28	
	SPARE	-29	
	SPARE	-30	
	SPARE	122J1A-31	

Interconnect Information
Table 501 (cont)

Performance Computer No. 1

IOB P	Function		Connector Pin		Connects To
	SPARE		122J1A-32		
(B)	ASCB	(H)	-33	(22)	SEE SECT. 3.3
(B)	PRIMARY PORT	(L)	-34	(22)	
	SPARE		-35		
	RESERVED		-36		
	RESERVED		-37		
	SPARE		-38		
(B)	RS 232 RCVR (I/O)		-39	(22)	2
(B)	RS 232 RTN (I/O)		-40	(22)	7
(B)	RS 232 XMTR (I/O)		-41	(22)	3
(B)	RS 232 RCVR (A/T)		-42	(22)	2
(B)	RS 232 RTN (A/T)		-43	(22)	7 FLT TEST ONLY
(B)	RS 232 XMTR (A/T)		-44	(22)	3
(B)	RS 232 RCVR (PERF)		-45	(22)	2
(B)	RS 232 RTN (PERF)		-46	(22)	7
(B)	RS 232 XMTR (PERF)		-47	(22)	3
(I)	CROSS-SIDE A/T ENGAGE*		-48	(22)	C122J1A-49
(O)	A/T ENGAGE (GND/OPEN)		-49	(22)	C122J1A-48
(I)	MAINT TEST ENABLE*		-50	(22)	APPX D, REF APPX C
	RESERVED		-51		
	RESERVED		-52		
	RESERVED		-53		
(I)	GEAR DOWN*		-54	(22)	A/C GEAR DOWN DISCRETE, C122J1A-54, REF APPX C
	SPARE		-55		
	RESERVED		-56		
	RESERVED		122J1A-57		

Interconnect Information
Table 501 (cont)

Performance Computer No. 1

IOB P	Function	Connector Pin		Connects To	
	SPARE	122J1A-58			
(I)	LEFT/RIGHT* SELECT	-59	------NC		REF APPX C
(I)	ASCB VER A/B*	-60	(22)-------------------	SIG GND	
	RESERVED	-61			
(I)	LEFT BLEED SRC ON*	-62	(22)-------------------	A/C WIRING	
(I)	RIGHT BLEED SRC ON*	-63	(22)-------------------	A/C WIRING	
	SPARE	-64			
	RESERVED	-65			
(I)	ASCB SINGLE/DUAL*	-66	(22)-------------------	SIG GND	
	RESERVED	-67			
	RESERVED	-68			
	RESERVED	-69			
	RESERVED	-70			
	RESERVED	-71			
	FLAPS IN MOTION	-72	(22)----- 5.1 KΩ -----	A/C WIRING	
(I)	LEFT AC PACK ON/OFF (28V/OPEN)	-73	(22)-------------------	A/C WIRING	
(I)	RIGHT AC PACK ON/OFF (28V/OPEN)	122J1A-74	(22)-------------------	A/C WIRING	

Interconnect Information
Table 501 (cont)

Performance Computer No. 1

IOB P	Function	Connector Pin	Connects To
(I)	WOW*	122J1A-75 (22)	A/C WIRING, APPX C
	RESERVED	-76	
	RESERVED	-77	
	RESERVED	-78	
	RESERVED	-79	
	RESERVED	-80	
(I)	A/T ENGAGE/DISENGAGE (OPEN/GND TOGGLE)	-81 (22)	APPX D/REF APPX C
	RESERVED	-82	
	RESERVED	-83	
(B)	RS422 XMTR (FT1-CLK) (H)	-84 (22)	FLT TEST ONLY
(B)	RS422 XMTR (FT1-CLK) (L)	-85 (22)	FLT TEST ONLY
	SHIELD GND		
(B)	RS422 XMTR (FT1-CNTL) (H)	-86 (22)	FLT TEST ONLY
(B)	RS422 XMTR (FT1-CNTL) (L)	-87 (22)	FLT TEST ONLY
	SHIELD GND		
(B)	RS422 XMTR (FT1-DATA) (H)	-88 (22)	FLT TEST ONLY
(B)	RS422 XMTR (FT1-DATA) (L)	-89 (22)	FLT TEST ONLY
	SHIELD GND		
(B)	RS422 RCVR (FT1-DATA) (H)	-90 (22)	FLT TEST ONLY
(B)	RS422 RCVR (FT1-DATA) (L)	-91 (22)	FLT TEST ONLY
(B)	RS422 RCVR (FT1-CNTL) (H)	-92 (22)	FLT TEST ONLY
(B)	RS422 RCVR (FT1-CNTL) (L)	-93 (22)	FLT TEST ONLY
	SPARE	-94	
	SPARE	-95	
	SPARE	-96	
(B)	RS422 XMTR (CDU-CLK) (H)	-97 (22)	120J1-g
(B)	RS422 XMTR (CDU-CLK) (L)	-98 (22)	120J1-h
	SHIELD GND		
(B)	RS422 XMTR (CDU-CNTL) (H)	-99 (22)	120J1-e
(B)	RS422 XMTR (CDU-CNTL) (L)	-100 (22)	120J1-f
	SHIELD GND		
(B)	RS422 XMTR (CDU-DATA) (H)	-101 (22)	120J1-c
(B)	RS422 XMTR (CDU-DATA (L)	-102 (22)	120J1-d
	SHIELD GND		
(B)	RS422 RCVR (CDU-DATA) (H)	-103 (22)	120J1-Y
(B)	RS422 RCVR (CDU-DATA) (L)	-104 (22)	120J1-Z
(B)	RS422 RCVR (CDU-CNTL) (H)	-105 (22)	120J1-a
(B)	RS422 RCVR (CDU-CNTL) (L)	122J1A-106 (22)	120J1-b

Interconnect Information
Table 501 (cont)

Performance Computer No. 1

IOB P	Function	Connector Pin	Connects To
(P)	CHASSIS GND	122J1B-1 (22)	A/C GND
(P)	SIGNAL GND	-2 (22)	A/C SIG GND
	SPARE	-3	
(B)	ASCB SECONDARY PORT	(H) -4 (22)	SEE SECT 3.3
(B)	ASCB SECONDARY PORT	(L) -5 (22)	SEE SECT 3.3
	SPARE	-6	
	RESERVED	-7	
	RESERVED	-8	
	SPARE	-9	
	RESERVED	-10	
	RESERVED	-11	
	RESERVED	-12	
	RESERVED	-13	
	RESERVED	-14	
	RESERVED	-15	
	RESERVED	-16	
	RESERVED	-17	
	RESERVED	-18	
	RESERVED	-19	
	RESERVED	-20	
	RESERVED	-21	
	RESERVED	-22	
	RESERVED	-23	
	RESERVED	-24	
	RESERVED	-25	
	RESERVED	-26	
	RESERVED	-27	
	RESERVED	-28	
	RESERVED	-29	
	RESERVED	-30	
	RESERVED	-31	
	RESERVED	-32	
	RESERVED	-33	
	RESERVED	-34	
	RESERVED	-35	
	RESERVED	-36	
	RESERVED	-37	
	RESERVED	-38	
	RESERVED	-39	
	RESERVED	122J1B-40	

Interconnect Information
Table 501 (cont)

Performance Computer No. 1

IOB P	Function		Connector Pin		Connects To
	RESERVED		122J1B-41		
	RESERVED		-42		
	RESERVED		-43		
	RESERVED		-44		
	RESERVED		-45		
(I)	PLA1 POS (C)		-46	(22)	A/C WIRING
(I)	PLA2 POS (C)		-47	(22)	A/C WIRING
	RESERVED		-48		
	RESERVED		-49		
	RESERVED		-50		
	RESERVED		-51		
	RESERVED		-52		
	RESERVED		-53		
	RESERVED		-54		
	RESERVED		-55		
	RESERVED		-56		
	RESERVED		-57		
(I)	SERVO NO. 1 TACH	(L)	-58	(22)	L128P1-D, C122J1B-58
(I)	SERVO NO. 1 TACH	(H)	-59	(22)	L128P1-A, C122J1B-59
(I)	SERVO NO. 2 TACH	(L)	-60	(22)	R128P1-A, C122J1B-60
(I)	SERVO NO. 2 TACH	(H)	-61	(22)	R128P1-D, C122J1B-61
	RESERVED		-62		
	RESERVED		-63		
	RESERVED		-64		
	RESERVED		-65		
(I)	PLA 1 POS	(L)	-66	(22)	A/C WIRING
(I)	PLA 1 POS	(H)	-67	(22)	A/C WIRING
(I)	PLA 2 POS	(L)	-68	(22)	A/C WIRING
(I)	PLA 2 POS	(H)	-69	(22)	A/C WIRING
	RESERVED		-70		
	RESERVED		-71		
	RESERVED		-72		
	RESERVED		-73		
	RESERVED		-74		
	RESERVED		-75		
	RESERVED		122J1B-76		

Interconnect Information
Table 501 (cont)

Performance Computer No. 1

IOB P	Function	Connector Pin		Connects To
	RESERVED	122J1B-77		
	RESERVED	-78		
	RESERVED	-79		
	RESERVED	-80		
	RESERVED	-81		
	RESERVED	-82		
	RESERVED	-83		
	RESERVED	-84		
	RESERVED	-85		
	RESERVED	-86		
	INTERLOCK #1	-87	(22)-------------------	APPX C
	INTERLOCK #2	-88	(22)-------------------	APPX C
	INTERLOCK #3	-89	(22)-------------------	APPX C
	INTERLOCK #4	-90	(22)-------------------	APPX C
(I)	A/T DISCONNECT (OPEN/GND)	-91	(22)-------------------	APPX D, APPX C
	RESERVED	-92		
	RESERVED	-93		
	RESERVED	-94		
	RESERVED	-95		
(I)	PLA REF (H)	-96	(22)-------------------	26 V AC 400 HZ
(I)	PLA REF (L)	-97	(22)-------------------	26 V AC 400 HZ
	RESERVED	-98		
(O)	A/T ENGAGED GND	-99	(22)-------------------	A/C WIRING ENGINE SYNC COMPUTER
	RESERVED	-100		
	RESERVED	-101		
	RESERVED	-102		
	RESERVED	-103		
	RESERVED	-104		
	RESERVED	-105		
(O)	PERF COMP INSTALLED	122J1B-106	------NC	

Interconnect Information
Table 501 (cont)

Data Loader

IOB P	Function		Connector Pin	Connects To
	SPARE		123J1-A	
(P)	28 V DC POWER RTN		-B (20)	A/C 28 V DC, POWER RETURN
(P)	28 V DC POWER		-C (20)	A/C 28 V DC PWR
(O)	LOADER CONNECTED RIGHT (GND/OPEN)		-D (22)	C121J1B-83
(O)	LOADER CONNECTED LEFT (GND/OPEN)		-E (22)	121J1B-83
(O)	LOADER CONNECTED AUX (GND/OPEN)		-F	
(B)	RS422 RCV (DATA)	(L)	-G (22)	121J1A-53, C121J1A-53
(B)		(H)	-H (22)	121J1A-52, C121J1A-52
(B)	RS422 RCV (CLK)	(L)	-J (22)	121J1B-21, C121J1B-21
(B)		(H)	-K (22)	121J1B-20, C121J1B-20
	RESERVED		-L	
	RESERVED		-M	
	RESERVED		-N	
	RESERVED		-P	
	RESERVED		-R	
(B)	RS422 TX (DATA)	(L)	-S (22)	121J1A-29, C121J1A-29
(B)		(H)	-T (22)	121J1A-28, C121J1A-28
(B)	RS232 RCV LINE SIG DET		-U------NC	APPX D
(B)	RS232 SIGNAL GND		-V (22)	SIG GND — APPX D
(B)	RS232 DATA SET READY		-W------NC	APPX D
(B)	RS232 CLEAR TO SEND		-X------NC	APPX D
(B)	RS232 REQUEST TO SEND		-Y------NC	APPX D
(B)	RS232 RCV DATA		-Z	APPX D
(B)	RS232 XMIT DATA		-a	APPX D
(P)	CHASSIS GND		-b (22)	A/C CHASSIS GND
	SPARE		123J1-c	

Interconnect Information
Table 501 (cont)

Autothrottle Servo No. 1

IOB P	Function	Connector Pin	Connects To
(O)	SERVO TACH (H)	L128P1-A (22)	122J1B-59, C122J1B-59
(O)	SERVO TACH (L)	-D (22)	122J1B-58, C122J1B-58
		SHIELD GND	
(I)	SERVO DRIVE (H)	-B (20)	122J1A-15, C122J1A-15
(I)	SERVO DRIVE (L)	-C (20)	122J1A-16, C122J1A-16
(I)	CLUTCH (H)	-E (20)	122J1A-23, C122J1A-23, 134J1B-30, C134J1B-30
(P)	CLUTCH (L)	-F (20)	A/C PWR GND
(P)	CHASSIS GND	L128P1-G (22)	A/C CHASSIS GND

Interconnect Information
Table 501 (cont)

Autothrottle Servo No. 2

IOB P	Function	Connector Pin	Connects To
(O)	SERVO TACH (H)	R128P1-A (22)	122J1B-60, C122J1B-60
(O)	SERVO TACH (L)	-D (22)	122J1B-61, C122J1B-61
		SHIELD GND	
(I)	SERVO DRIVE (H)	-B (20)	122J1A-18, C122J1A-18
(I)	SERVO DRIVE (L)	-C (20)	122J1A-17, C122J1A-17
(I)	CLUTCH (H)	-E (20)	122J1A-24, C122J1A-24, 134J1B-32, C134J1B-32
(P)	CLUTCH (L)	-F (20)	A/C PWR GND
(P)	CHASSIS GND	R128P1-G (22)	A/C CHASSIS GND

Interconnect Information
Table 501 (cont)

Manual Controller

IOB P	Function	Connector Pin	Connects To
(P)	-15 V DC EXC SYS 1	129J1-1 (22)	10J2B-57
(O)	TK SIGNAL SYS 1	-2 (22)	10J2B-58, C10J2B-60
(P)	+15 V DC EXC SYS 1	-3 (22)	10J2B-55
(P)	TK RETURN SYS 1	-4 (22)	10J2B-56
(P)	CHASSIS GROUND	-5 (22)	A/C CHASSIS GND
(I)	TK DETENT SYS 1 (COMMON)	-6 (22)	A/C 28 VDC NO.1
(O)	TK DETENT SYS 1 (DETENT)	-7 ------NC	
(O)	TK DETENT SYS 1 (DETENT NOT)	-8 (22)	10J2B-59, C10J2B-61
(P)	LIGHTING (5V) (H)	-9 (22)	A/C 5V LIGHTING
(P)	LIGHTING LO	-10 (22)	A/C LIGHTING GND
(P)	-15 V DC EXC SYS 2	-11 (22)	C10J2B-57
(O)	TK SIGNAL SYS 2	-12 (22)	C10J2B-58, 10J2B-60
(P)	+15 V DC EXC SYS 2	-13 (22)	C10J2B-55
(P)	TK RETURN SYS 2	-14 (22)	C10J2B-56
(I)	TK DETENT SYS 2 (COMMON)	-15 (22)	A/C 28 VDC NO. 2
(O)	TK DETENT SYS 2 (DETENT)	-16 ------NC	
(O)	TK DETENT SYS 2 (DETENT NOT)	-17 (22)	10J2B-61, C10J2B-59
(O)	PITCH WHEEL SYS 1 (H)	-18 (22)	10J2B-94, C10J2B-104
(O)	PITCH WHEEL SYS 1 (L)	-19 (22)	10J2B-95, C10J2B-105
		SHIELD GND	
(P)	LIGHTING (28V) (H)	-20 (22)	A/C 28 VDC LIGHTING PWR
(O)	PITCH WHEEL SYS 2 (H)	-21 (22)	10J2B-104, C10J2B-94
(O)	PITCH WHEEL SYS 2 (L)	129J1-22 (22)	10J2B-105, C10J2B-95
		SHIELD GND	

Interconnect Information
Table 501 (cont)

Display Unit No. 1

IOB P	Function		Connector Pin	Connects To
(O)		(H)	130J1-1 (22)	135J1-1
(I)	BRIGHTNESS POT	(W)	-14 (22)	135J1-2
(O)		(L)	-13 (22)	135J1-3
			SHIELD GND	
(O)		(H)	-2	NC
(I)	WX DIMMING	(W)	-15	NC
(O)		(L)	-3	NC
	RESERVED		-4	
	RESERVED		-5	
	RESERVED		-6	
	RESERVED		-7	
	SPARE		-8	
	RESERVED		-9	
	RESERVED		-10	
	RESERVED		-11	
	RESERVED		-12	
	RESERVED		-16	
	RESERVED		-17	
	RESERVED		-18	
(B)	BUS 3	(H)	-19 (22)	SEE APPENDIX A, FIG. A-4
(B)		(L)	-20 (22)	
	SPARE		-21	
(I)	DU PWR DN*		-22 (22)	REV CONTROLLER P9-X, APPENDIX B & C
(I)	LIGHTING BUS	(H)	-23 (22)	5V OR 28 V DC LIGHTING BUS FOR INCLINOMETER LIGHTING 1.5 WATTS
(I)		(L)	-24 (22)	
	SPARE		-25	
(I)	REMOTE LT SENSOR	(H)	130J1-26 (22)	131J1-26, 132J1-26, 133J1-26, 115J2-V, C115J2-V, C131J1-26, C130J1-26, REMOTE LT SENSOR HI

Interconnect Information
Table 501 (cont)

Display Unit No. 1

IOB P	Function	Connector Pin	Connects To
(I)	REMOTE LT SENSOR (L)	130J1-27 (22)	131J1-27, 132J1-27, 133J1-27, 115J2-W, C115J2-W, C131J1-27, C130J1-27, REMOTE LT SENSOR LO
(O)	DLS OUT (H)	-28 (22)	131J1-29,115J2-R
(O)	(L)	-41 (22)	131J1-42,115J2-S
		SHIELD GND	
(I)	ALS (H)	-29 (22)	131J1-28,115J2-T
(I)	(L)	-42 (22)	131J1-41,115J2-U
	RESERVED	-30	
	RESERVED	-31	
	RESERVED	-32	
(B)	BUS 3 TERM (L)	-33 -----NC	
	RESERVED	-34	
(B)	BUS 2 (HI)	-35 (22)	SEE APPENDIX A FIG. A-7
(B)	(L)	-36 (22)	SEE APPENDIX A FIG. A-7
(O)	DU VALID (GND/OPEN)	-37 ------NC	
(B)	BUS 1 (H)	-38 (22)	SEE APPENDIX A FIG. A-1
(B)	(L)	-39 (22)	SEE APPENDIX A FIG. A-1
(O)	REMOTE LT SENSOR GND	-40 (22)	A/C REMOTE LT SENSOR
(O)	REMOTE LT SENSOR PWR (H)	-53 (22)	A/C REMOTE LT SENSOR
(O)	(L)	-54 (22)	A/C REMOTE LT SENSOR
		SHIELD GND	
	RESERVED	-43	
	RESERVED	-44	
	RESERVED	-46	
	RESERVED	-47	
	RESERVED	-48	
(B)	BUS 2 TERM (L)	-49 -----NC	
	RESERVED	-50	
	RESERVED	-51	
(B)	BUS 1 TERM (L)	-52 -----NC	
	RESERVED	-55	
	RESERVED	-56	
	RESERVED	-57	
(B)	BUS 4 (H)	130J1-58 (22)	130J1-85

Interconnect Information
Table 501 (cont)

Display Unit No. 1

IOB P	Function	Connector Pin		Connects To
(B)	BUS 4 TRM (L)	130J1-45	(22)	130J1-86
(B)	BUS 4 (L)	-59	NC	
	RESERVED	-60		
(B)	WX BUS 2 TERM (L)	-61	NC	
	RESERVED	-62		
	RESERVED	-63		
(B)	WX BUS 1 TERM (L)	-64	NC	
(O)	DU OVERTEMP (GND/OPEN)	-65	(22)	134J1A-34, C134J1A-34
(O)	DU WRAPAROUND (H) (ARINC 429)	-66	(22)	134J1B-34, C134J1B-34
(O)	DU WRAPAROUND (L) (ARINC 429)	-79	(22)	134J1B-35, C134J1B-35
	RESERVED	-67		
	RESERVED	-68		
(B)	WX BUS 3 (H)	-69	NC	
(B)	WX BUS 3 (L)	-70	NC	
	RESERVED	-71		
	RESERVED	-72		
	SPARE	-73		
(B)	WX BUS 2 (H)	-74	NC	
(B)	WX BUS 2 (L)	-75	NC	
	SPARE	-76		
(B)	WX BUS 1 (H)	-77	NC	
(B)	WX BUS 1 (L)	-78	NC	
	RESERVED	-80		
	RESERVED	-81		
	RESERVED	-82		
(B)	WX BUS 3 TERM (L)	-83	NC	
	RESERVED	-84		
(O)	BURST OUT (H)	-85	(22)	130J1-58
(O)	(L)	-86	(22)	130J1-45
(I)	PORT SEL A	-87	(22)	131J1-87, A/C WIRING, APPX B & C
(I)	PORT SEL B	-88	(22)	131J1-88, A/C WIRING, APPX B & C
	RESERVED	130J1-89		

Interconnect Information
Table 501 (cont)

Display Unit No. 1

IOB P	Function	Connector Pin	Connects To
(I)	I.D. #1	130J1-90 ------NC	REF APPENDIX C
(I)	I.D. #2	-91 ------NC	
	RESERVED	-92	
	RESERVED	-93	
(P)	CHASSIS GND	-94 (22)-------------------	A/C CHASSIS GND
	RESERVED	-95	
	RESERVED	-96	
	RESERVED	-97	
	RESERVED	-98	
(I)	SOFTWARE ENABLE*	-99 (22)-------------------	FLT TEST ONLY
(I)	SOFTWARE ENABLE*	-100 (22)------------------	FLT TEST ONLY
(P)	28 V DC	-101 (NOTE 3)--------------	A/C 28 V DC PWR
(P)	28 V DC	-102 (NOTE 3)--------------	
(P)	28 V DC	-103 (NOTE 3)--------------	
(P)	28 V DC RTN	-104 (NOTE 3)--------------	A/C 28 V DC PWR RTN
(P)	28 V DC RTN	-105 (NOTE 3)--------------	
(P)	28 V DC RTN	130J1-106 (NOTE 3)--------------	

Interconnect Information
Table 501 (cont)

Display Unit No. 2

IOB P	Function		Connector Pin	Connects To
(O)		(H)	131J1-1 (22)	135J1-4
(I)	BRIGHTNESS POT	(W)	-14 (22)	135J1-5
(O)		(L)	-13 (22)	135J1-6
			SHIELD GND	
(O)		(H)	-2 (22)	61J2-F
(I)	WX DIMMING	(W)	-15 (22)	61J2-G
(O)		(L)	-3 (22)	61J2-H
	RESERVED		-4	
	RESERVED		-5	
	RESERVED		-6	
	RESERVED		-7	
	SPARE		-8	
	RESERVED		-9	
	RESERVED		-10	
	RESERVED		-11	
	RESERVED		-12	
	RESERVED		-16	
	RESERVED		-17	
	RESERVED		-18	
(B)	BUS 3	(H)	-19 (22)	SEE APPENDIX A, FIG. A-5
(B)		(L)	-20 (22)	
	SPARE		-21	
(I)	DU PWR DN*		-22 (22)	REV CONTROLLER P9-b, APPENDIX B & C
(I)	LIGHTING BUS	(H)	-23 ------NC	
(I)		(L)	-24 ------NC	
	SPARE		-25	
(I)	REMOTE LT SENSOR	(H)	131J1-26 (22)	130J1-26, 132J1-26, 133J1-26, 115J2-V, C115J2-V, C131J1-26, C130J1-26, REMOTE LT SENSOR HI

Interconnect Information
Table 501 (cont)

Display Unit No. 2

IOB P	Function	Connector Pin	Connects To
(I)	REMOTE LT SENSOR (L)	131J1-27 (22)	130J1-27, 132J1-27, 133J1-27, 115J2-W, C115J2-W, C131J1-27, C130J1-27, REMOTE LT SENSOR LO
(O)	DLS OUT (H)	-28 (22)	130J1-29,115J2-T
(O)	(L)	-41 (22)	130J1-42,115J2-U
		SHIELD GND ---	
(I)	ALS (H)	-29 (22)	130J1-28,115J2-R
(I)	(L)	-42 (22)	130J1-41,115J2-S
	RESERVED	-30	
	RESERVED	-31	
	RESERVED	-32	
(B)	BUS 3 TERM (L)	-33 ------NC	
	RESERVED	-34	
(B)	BUS 2 (H)	-35 (22)	SEE APPENDIX A FIG. A-8
(B)	(L)	-36 (22)	SEE APPENDIX A FIG. A-8
(O)	DU VALID (GND/OPEN)	-37 ------NC	
(B)	BUS 1 (H)	-38 (22)	SEE APPENDIX A FIG. A-2
(B)	(L)	-39 (22)	SEE APPENDIX A FIG. A-2
(O)	REMOTE LT SENSOR GND	-40 ------NC	
(O)	REMOTE LT SENSOR PWR (H)	-53 ------NC	
(O)	(L)	-54 ------NC	
	RESERVED	-43	
	RESERVED	-44	
	RESERVED	-46	
	RESERVED	-47	
	RESERVED	-48	
(B)	BUS 2 TERM (L)	-49 ------NC	
	RESERVED	-50	
	RESERVED	-51	
(B)	BUS 1 TERM (L)	-52 ------NC	
	RESERVED	-55	
	RESERVED	-56	
	RESERVED	131J1-57	

Interconnect Information
Table 501 (cont)

Display Unit No. 2

IOB P	Function	Connector Pin	Connects To
(B)	BUS 4 (H)	131J1-58 (22)	131J1-85
(B)	BUS 4 TRM (L)	-45 (22)	131J1-86
(B)	BUS 4 (L)	-59 ------NC	
	RESERVED	-60	
(B)	WX BUS 2 TERM (L)	-61 ------NC	
	RESERVED	-62	
	RESERVED	-63	
(B)	WX BUS 1 TERM (L)	-64 ------NC	
(O)	DU OVERTEMP (GND/OPEN)	-65 (22)	134J1A-35, C134J1A-35
(O)	DU WRAPAROUND (H) (ARINC 429)	-66 (22)	134J1B-39, C134J1B-39
(O)	DU WRAPAROUND (L) (ARINC 429)	-79 (22)	134J1B-40, C134J1B-40
	RESERVED	-67	
	RESERVED	-68	
(B)	WX BUS 3 (H)	-69 (22)	SEE APPENDIX A
(B)	(L)	-70 (22)	FIG. A-9
	RESERVED	-71	
	RESERVED	-72	
	SPARE	-73	
(B)	WX BUS 2 (H)	-74 (22)	SEE APPENDIX A
(B)	(L)	-75 (22)	FIG. A-6
	SPARE	-76	
(B)	WX BUS 1 (H)	-77 (22)	SEE APPENDIX A
(B)	(L)	-78 (22)	FIG. A-3
	RESERVED	-80	
	RESERVED	-81	
	RESERVED	-82	
(B)	WX BUS 3 TERM (L)	-83 ------NC	
	RESERVED	-84	
(O)	BURST OUT (H)	-85 (22)	131J1-58
(O)	(L)	-86 (22)	131J1-45
(I)	PORT SEL A	-87 (22)	130J1-87, A/C WIRING, APPENDIX B & C
(I)	PORT SEL B	-88 (22)	130J1-88, A/C WIRING, APPENDIX B & C
	RESERVED	131J1-89	

Interconnect Information
Table 501 (cont)

Display Unit No. 2

IOB P	Function	Connector Pin		Connects To
(I)	I.D. #1	131J1-90	(22)-------------------	GND } REF APPENDIX C
(I)	I.D. #2	-91	------NC	
	RESERVED	-92		
	RESERVED	-93		
(P)	CHASSIS GND	-94	(22)-------------------	A/C CHASSIS GND
	RESERVED	-95		
	RESERVED	-96		
	RESERVED	-97		
	RESERVED	-98		
(I)	SOFTWARE ENABLE*	-99	(22)-------------------	FLT TEST ONLY
(I)	SOFTWARE ENABLE*	-100	(22)------------------	FLT TEST ONLY
(P)	28 V DC	-101	(NOTE 3)--------------	A/C 28 V DC PWR
(P)	28 V DC	-102	(NOTE 3)--------------	
(P)	28 V DC	-103	(NOTE 3)--------------	
(P)	28 V DC RTN	-104	(NOTE 3)--------------	A/C 28 V DC PWR RTN
(P)	28 V DC RTN	-105	(NOTE 3)--------------	
(P)	28 V DC RTN	131J1-106	(NOTE 3)--------------	

Interconnect Information
Table 501 (cont)

Display Unit No. 3

IOB P	Function		Connector Pin	Connects To
(O)		(H)	132J1-1 (22)	135J1-7
(I)	BRIGHTNESS POT	(W)	-14 (22)	135J1-8
(O)		(L)	-13 (22)	135J1-9
			SHIELD GND	
(O)		(H)	-2	NC
(I)	WX DIMMING	(W)	-15	NC
(O)		(L)	-3	NC
	RESERVED		-4	
	RESERVED		-5	
	RESERVED		-6	
	RESERVED		-7	
	SPARE		-8	
	RESERVED		-9	
	RESERVED		-10	
	RESERVED		-11	
	RESERVED		-12	
	RESERVED		-16	
	RESERVED		-17	
	RESERVED		-18	
(B)	BUS 3	(H)	-19 (22)	SEE APPENDIX A,
(B)		(L)	-20 (22)	FIG. A-2
	SPARE		-21	
(I)	DU PWR DN*		-22 (22)	A/C WIRING, 65J1A-64, C65J1A-64, 134J1A-46, C134J1A-46, E65J1A-64, APPENDIX B & C
(I)	LIGHTING BUS	(H)	-23	NC
(I)		(L)	-24	NC
	SPARE		-25	
(I)	REMOTE LT SENSOR	(H)	132J1-26 (22)	130J1-26, 131J1-26, 133J1-26, 115J2-V, C115J2-V, C131J1-26, C130J1-26, REMOTE LT SENSOR HI

Interconnect Information
Table 501 (cont)

Display Unit No. 3

IOB P	Function	Connector Pin	Connects To
(I)	REMOTE LT SENSOR (L)	132J1-27 (22)	130J1-27, 131J1-27, 133J1-27, 115J2-W, C115J2-W, C131J1-27, C130J1-27, REMOTE LT SENSOR LO
(O)	DLS OUT (H)	-28 (22)	133J1-29
(O)	(L)	-41 (22)	133J1-42
		SHIELD GND	
(I)	ALS (H)	-29 (22)	133J1-28
(I)	(L)	-42 (22)	133J1-41
	RESERVED	-30	
	RESERVED	-31	
	RESERVED	-32	
(B)	BUS 3 TERM (L)	-33	NC
	RESERVED	-34	
(B)	BUS 2 (H)	-35 (22)	SEE APPENDIX A FIG. A-5
(B)	(L)	-36 (22)	
(O)	DU VALID (GND/OPEN)	-37 (22)	134J1A-29, C134J1A-29, APPENDIX B & C
(B)	BUS 1 (H)	-38 (22)	SEE APPENDIX A FIG. A-8
(B)	(L)	-39 (22)	
(O)	REMOTE LT SENSOR GND	-40	NC
(O)	REMOTE LT SENSOR PWR (H)	-53	NC
(O)	(L)	-54	NC
	RESERVED	-43	
	RESERVED	-44	
	RESERVED	-46	
	RESERVED	-47	
	RESERVED	-48	
(B)	BUS 2 TERM (L)	-49	NC
	RESERVED	-50	
	RESERVED	-51	
(B)	BUS 1 TERM (L)	-52	NC
	RESERVED	-55	
	RESERVED	-56	
	RESERVED	132J1-57	

Interconnect Information
Table 501 (cont)

Display Unit No. 3

IOB P	Function	Connector Pin	Connects To
(B)	BUS 4 (H)	132J1-58 (22)	132J1-85
(B)	BUS 4 TERM (L)	-45 (22)	132J1-86
(B)	BUS 4 (L)	-59 ------NC	
	RESERVED	-60	
(B)	WX BUS 2 TERM (L)	-61 ------NC	
	RESERVED	-62	
	RESERVED	-63	
(B)	WX BUS 1 TERM (L)	-64 ------NC	
(O)	DU OVERTEMP (GND/OPEN)	-65 (22)	134J1A-36, C134J1A-36
(O)	DU WRAPAROUND (H) (ARINC 429)	-66 (22)	134J1B-41, C134J1B-41
(O)	DU WRAPAROUND (L) (ARINC 429)	-79 (22)	134J1B-42, C134J1B-42
	RESERVED	-67	
	RESERVED	-68	
(B)	WX BUS 3 (H)	-69 ------NC	
(B)	WX BUS 3 (L)	-70 ------NC	
	RESERVED	-71	
	RESERVED	-72	
	SPARE	-73	
(B)	WX BUS 2 (H)	-74 ------NC	
(B)	WX BUS 2 (L)	-75 ------NC	
	SPARE	-76	
(B)	WX BUS 1 (H)	-77 ------NC	
(B)	WX BUS 1 (L)	-78 ------NC	
	RESERVED	-80	
	RESERVED	-81	
	RESERVED	-82	
(B)	WX BUS 3 TERM (L)	-83 ------NC	
	RESERVED	-84	
(O)	BURST OUT (H)	-85 (22)	132J1-58
(O)	(L)	-86 (22)	132J1-45
(I)	PORT SEL A	-87 (22)	133J1-87, A/C WIRING, APPENDIX B & C
(I)	PORT SEL B	-88 (22)	133J1-88, A/C WIRING, APPENDIX B & C
	RESERVED	132J1-89	

Interconnect Information
Table 501 (cont)

Display Unit No. 3

IOB P	Function	Connector Pin	Connects To
(I)	I.D. #1	132J1-90 ------NC	REF APPENDIX C
(I)	I.D. #2	-91 (22)-------------------	GND
	RESERVED	-92	
	RESERVED	-93	
(P)	CHASSIS GND	-94 (22)-------------------	A/C CHASSIS GND
	RESERVED	-95	
	RESERVED	-96	
	RESERVED	-97	
	RESERVED	-98	
(I)	SOFTWARE ENABLE*	-99 (22)-------------------	FLT TEST ONLY
(I)	SOFTWARE ENABLE*	-100 (22)------------------	FLT TEST ONLY
(P)	28 V DC	-101 (NOTE 3)--------------	A/C 28 V DC PWR
(P)	28 V DC	-102 (NOTE 3)--------------	
(P)	28 V DC	-103 (NOTE 3)--------------	
(P)	28 V DC RTN	-104 (NOTE 3)--------------	A/C 28 V DC PWR RTN
(P)	28 V DC RTN	-105 (NOTE 3)--------------	
(P)	28 V DC RTN	132J1-106 (NOTE 3)--------------	

Interconnect Information
Table 501 (cont)

Display Unit No. 4

IOB P	Function		Connector Pin	Connects To
(O)		(H)	133J1-1 (22)	135J1-10
(I)	BRIGHTNESS POT	(W)	-14 (22)	135J1-11
(O)		(L)	-13 (22)	135J1-12
			SHIELD GND	
(O)		(H)	-2	NC
(I)	WX DIMMING	(W)	-15	NC
(O)		(L)	-3	NC
	RESERVED		-4	
	RESERVED		-5	
	RESERVED		-6	
	RESERVED		-7	
	SPARE		-8	
	RESERVED		-9	
	RESERVED		-10	
	RESERVED		-11	
	RESERVED		-12	
	RESERVED		-16	
	RESERVED		-17	
	RESERVED		-18	
(B)	BUS 3	(H)	-19 (22)	SEE APPENDIX A, FIG. A-1
(B)		(L)	-20 (22)	
	SPARE		-21	
(I)	DU PWR DN*		-22 (22)	A/C WIRING, 65J1A-65, C65J1A-65, 134J1A-47, C134J1A-47, E65J1A-65 APPENDIX B & C
(I)	LIGHTING BUS	(H)	-23	NC
(I)		(L)	-24	NC
	SPARE		133J1-25	

Interconnect Information
Table 501 (cont)

Display Unit No. 4

IOB P	Function	Connector Pin	Connects To
(I)	REMOTE LT SENSOR (H)	133J1-26 (22)	130J1-26, 131J1-26, 132J1-26, 115J2-V, C115J2-V, C131J1-26, C130J1-26, REMOTE LT SENSOR HI
(I)	REMOTE LT SENSOR (L)	-27 (22)	130J1-27, 131J1-27, 132J1-27, 115J2-W, C115J2-W, C131J1-27, C130J1-27, REMOTE LT SENSOR LO
(O)	DLS OUT (H)	-28 (22)	132J1-29
(O)	(L)	-41 (22)	132J1-42
		SHIELD GND	
(I)	ALS (H)	-29 (22)	132J1-28
(I)	(L)	-42 (22)	132J1-41
	RESERVED	-30	
	RESERVED	-31	
	RESERVED	-32	
(B)	BUS 3 TERM (L)	-33	NC
	RESERVED	-34	
(B)	BUS 2 (H)	-35 (22)	SEE APPENDIX A FIG. A-4
(B)	(L)	-36 (22)	SEE APPENDIX A FIG. A-4
(O)	DU VALID (GND/OPEN)	-37 (22)	134J1A-30, C134J1A-30, APPX B & C
(B)	BUS 1 (H)	-38 (22)	SEE APPENDIX A FIG. A-7
(B)	(L)	-39 (22)	SEE APPENDIX A FIG. A-7
(O)	REMOTE LT SENSOR GND	-40	NC
(O)	REMOTE LT SENSOR PWR (H)	-53	NC
(O)	(L)	-54	NC
	RESERVED	-43	
	RESERVED	-44	
	RESERVED	-46	
	RESERVED	133J1-47	

Interconnect Information
Table 501 (cont)

Display Unit No. 4

IOB P	Function	Connector Pin	Connects To
	RESERVED	133J1-48	
(B)	BUS 2 TERM (L)	-49 ------NC	
	RESERVED	-50	
	RESERVED	-51	
(B)	BUS 1 TERM (L)	-52 ------NC	
	RESERVED	-55	
	RESERVED	-56	
	RESERVED	-57	
(B)	BUS 4 (H)	-58 (22)	133J1-85
(B)	BUS 4 TERM (L)	-45 (22)	133J1-86
(B)	BUS 4 (L)	-59 ------NC	
	RESERVED	-60	
(B)	WX BUS 2 TERM (L)	-61 ------NC	
	RESERVED	-62	
	RESERVED	-63	
(B)	WX BUS 1 TERM (L)	-64 ------NC	
(O)	DU OVERTEMP (GND/OPEN)	-65 (22)	134J1A-37, C134J1A-37
(O)	DU WRAPAROUND (H) (ARINC 429)	-66 (22)	134J1B-43, C134J1B-43
(O)	DU WRAPAROUND (L) (ARINC 429)	-79 (22)	134J1B-44, C134J1B-44
	RESERVED	-67	
	RESERVED	-68	
(B)	WX BUS 3 (H)	-69 ------NC	
(B)	WX BUS 3 (L)	-70 ------NC	
	RESERVED	-71	
	RESERVED	-72	
	SPARE	-73	
(B)	WX BUS 2 (H)	-74 ------NC	
(B)	WX BUS 2 (L)	-75 ------NC	
	SPARE	-76	
(B)	WX BUS 1 (H)	-77 ------NC	
(B)	WX BUS 1 (L)	-78 ------NC	
	RESERVED	-80	
	RESERVED	-81	
	RESERVED	-82	
(B)	WX BUS 3 TERM (L)	-83 ------NC	
	RESERVED	133J1-84	

Interconnect Information
Table 501 (cont)

Display Unit No. 4

IOB P	Function		Connector Pin	Connects To
(O)	BURST OUT	(H)	133J1-85 (22)	133J1-58
(O)		(L)	-86 (22)	133J1-45
(I)	PORT SEL A		-87 (22)	132J1-87, A/C WIRING, APPX B & C
(I)	PORT SEL B		-88 (22)	132J1-88, A/C WIRING, APPENDIX B & C
	SPARE		-89	
(I)	I.D. #1		-90 (22)	GND } REF APPX C
(I)	I.D. #2		-91 (22)	GND } REF APPX C
	SPARE		-92	
	SPARE		-93	
(P)	CHASSIS GND		-94 (22)	A/C CHASSIS GND
	RESERVED		-95	
	RESERVED		-96	
	RESERVED		-97	
	RESERVED		-98	
(I)	SOFTWARE ENABLE*		-99 (22)	FLT TEST ONLY
(I)	SOFTWARE ENABLE*		-100 (22)	FLT TEST ONLY
(P)	28 V DC		-101 (NOTE 3)	A/C 28 V DC PWR
(P)	28 V DC		-102 (NOTE 3)	A/C 28 V DC PWR
(P)	28 V DC		-103 (NOTE 3)	A/C 28 V DC PWR
(P)	28 V DC RTN		-104 (NOTE 3)	A/C 28 V DC PWR RTN
(P)	28 V DC RTN		-105 (NOTE 3)	A/C 28 V DC PWR RTN
(P)	28 V DC RTN		133J1-106 (NOTE 3)	A/C 28 V DC PWR RTN

Interconnect Information
Table 501 (cont)

Fault Warning Computer No. 1

IOB P	Function	Connector Pin	Connects To	
(P)	28 V DC POWER	134J1A-1 (NOTE 3)	A/C 28V DC PWR	
(P)	28 V DC POWER	-2 (NOTE 3)	A/C 28V DC PWR	
(P)	28 V DC POWER	-3 (NOTE 3)	A/C 28V DC PWR	
	RESERVED	-4		
(P)	28 V DC POWER GND	-5 (NOTE 3)	A/C 28 V DC POWER GND	
(P)	28 V DC POWER GND	-6 (NOTE 3)	A/C 28 V DC POWER GND	
(P)	28 V DC POWER GND	-7 (NOTE 3)	A/C 28 V DC POWER GND	
	RESERVED	-8		
(P)	SIGNAL GND	-9 (22)	A/C SIGNAL GND	
(P)	SIGNAL GND	-10 (22)	A/C SIGNAL GND	
(P)	SIGNAL GND	-11 (22)	A/C SIGNAL GND	
(I)	KEYING PIN NO. 1	-12 (22)	GND	REF APPX C
(I)	KEYING PIN NO. 2	-13 ------NC		REF APPX C
(I)	KEYING PIN NO. 3	-14 (22)	GND	REF APPX C
(I)	KEYING PIN NO. 4	-15 ------NC		REF APPX C
(I)	KEYING PIN NO. 5	-16 (22)	GND	REF APPX C
	RESERVED	-17		REF APPX C
	RESERVED	-18		REF APPX C
(O)	FGC MAINT TEST (GND/OPEN)	-19 (22)	11J1-58, 11J2-58 C134J1A-19	REF APPX C
	SPARE	-20		REF APPX C
(O)	AP OFF ANNUN (GND/OPEN)	-21 (22)	APPENDIX D	REF APPX C
	RESERVED	-22		REF APPX C
(I)	WARN RESET*	-23 (22)	APPX D	REF APPX C
(I)	CAUTION RESET*	-24 (22)	APPX D	REF APPX C
(I)	VOICE RECORDER FAIL (OPEN/GND)	-25 (22)	A/C WIRING	REF APPX C
(I)	STEER BY WIRE FAIL (GND/OPEN)	-26 (22)	A/C WIRING	REF APPX C
(I)	AHRS COOL FAIL*	-27 (22)	E170J1B-E1	REF APPX C
(I)	CAT 2 BENDIX ILS INTALLED*	-28 (22)	APPX C	REF APPX C
(I)	DU 3 VALID*	-29 (22)	132J1-37, C134J1A-29	REF APPX C
(I)	DU 4 VALID*	-30 (22)	133J1-37, C134J1A-30	REF APPX C
	RESERVED	-31		REF APPX C
(I)	SPARE	-32 -----NC		REF APPX C
(I)	SPARE	-33 -----NC		REF APPX C
(I)	DU1 OVERTEMP*	134J1A-34 (22)	130J1-65, C134J1A-34	REF APPX C

Interconnect Information
Table 501 (cont)

Fault Warning Computer No. 1

IOB P	Function	Connector Pin	Connects To
(I)	DU2 OVERTEMP*	134J1A-35 (22)-------------------	131J1-65, C134J1A-35
(I)	DU3 OVERTEMP*	-36 (22)-------------------	132J1-65, C134J1A-36
(I)	DU4 OVERTEMP*	-37 (22)-------------------	133J1-65, C134J1A-37
(I)	DU5 OVERTEMP*	-38 (22)-------------------	C131J1-65, C134J1A-38
(I)	DU6 OVERTEMP*	-39 (22)-------------------	C130J1-65, C134J1A-39
	RESERVED	-40	
(I)	SG1 REV*	-41 (22)-------------------	C134J1A-41, A/C WIRING, 65J1A-60, C65J1A-60, E65J1A-60, 65J1A-59, APPX B AND C
(I)	SG2 REV*	-42 (22)-------------------	C134J1A-42, A/C WIRING, 65J1A-61, C65J1A-61, E65J1A-61, C65J1A-59, APPX B AND C
(I)	SG3 REV*	-43 (22)-------------------	C134J1A-43, A/C WIRING, 65J1A-62, C65J1A-62, E65J1A-62, E65J1A-59, APPX B AND C
(I)	DU1 REV*	-44 (22)-------------------	C134J1A-44, A/C WIRING, 65J1A-63, C65J1A-63, E65J1A-63, APPX B AND C
(I)	DU2 REV*	134J1A-45 (22)-------------------	C134J1A-45, 131J1-22, APPX B AND C, A/C WIRING

Interconnect Information
Table 501 (cont)

Fault Warning Computer No. 1

IOB P	Function	Connector Pin		Connects To
(I)	DU3 REV*	134J1A-46 (22)	-------------------	C134J1A-46, A/C WIRING, 65J1A-64, C65J1A-64, E65J1A-64, 132J1-22, APPX B AND C
(I)	DU4 REV*	-47 (22)	-------------------	C134J1A-47, A/C WIRING, 65J1A-65, C65J1A-65, E65J1A-65, 133J1-22, APPX B AND C
(I)	DU5 REV*	-48 (22)	-------------------	C134J1A-48, C131J1-22, A/C WIRING, APPX B AND C
(I)	DU6 REV*	-49 (22)	-------------------	C134J1A-49, A/C WIRING, 65J1A-66, C65J1A-66, E65J1A-66, APPX B AND C
(I)	CAT 2 MLS INSTALLED*	-50 (22)	-------------------	APPX C
(I)	SG1 OVERTEMP*	-51 (22)	-------------------	C134J1A-51, 65J1B-52
(I)	SG2 OVERTEMP*	-52 (22)	-------------------	C134J1A-52, C65J1B-52
(I)	SG3 OVERTEMP*	-53 (22)	-------------------	C134J1A-53, E65J1B-52
	RESERVED	-54		
	SPARE	-55		
(P)	CHASSIS GND	-56 (22)	-------------------	A/C CHASSIS GND
(P)	CHASSIS GND	-57 (22)	-------------------	A/C CHASSIS GND
(P)	CHASSIS GND	-58 (22)	-------------------	A/C CHASSIS GND
	RESERVED	134J1A-59		

Interconnect Information
Table 501 (cont)

Fault Warning Computer No. 1

IOB P	Function	Connector Pin	Connects To
	RESERVED	134J1A-60	
(B)	SYS ASCB PRIMARY BUS (H)	-61 (22)	REF. SECT. 3.3
(B)	SYS ASCB PRIMARY BUS (L)	-62 (22)	REF. SECT. 3.3
(I)	WOW*	-63 (22)	A/C WOW
	RESERVED	-64	
(I)	FWC ID Φ1	-65 (22)	SIG GND
(I)	FWC ID Φ2	-66 ------NC	
(I)	GEAR DOWN*	-67 (22)	A/C GEAR DOWN DISCRETE
(I)	MEMORY ERASE BUTTON*	-68 (22)	APPX D
(I)	WINDSHEAR AVAILABLE*	-69 (22)	APPX J
(I)	GND SPOILER NOT ARMED	-70 (22)	A/C WIRING
(I)	EMER BATT 1 FAIL (OPEN/GND)	-71 (22)	A/C WIRING
(I)	EMER BATT 2 FAIL (OPEN/GND)	-72 (22)	A/C WIRING
(I)	AOA HEAT 1 FAIL (OPEN/GND)	-73 (22)	A/C WIRING APPX C
(I)	AOA HEAT 2 FAIL (OPEN/GND)	-74 (22)	A/C WIRING
(I)	CDU 1 VALID*	-75 (22)	120J1-i, 121J1B-100, C134J1A-75
(I)	CDU 2 VALID*	-76 (22)	C120J1-i, C121J1B-100, C134J1A-76
(I)	SPARE CDU VALID*	-77 (22)	APPX G
(I)	SPARE FMS ACTIVE 2*	-78 (22)	APPX G
(I)	SPARE FMS ACTIVE 1*	-79 (22)	APPX G
(I)	AP OFF RESET	-80 (22)	APPX D
(I)	MANUAL EXCEEDANCE RECORD*	-81 (22)	APPX D
(I)	CAT 2 NAV INSTALLED*	-82 (22)	APPX C
(I)	AUTOTHROTTLE DISCONNECT (OPEN/GND)	-83 (22)	APPX D
(I)	BRAKE OVHT (BTMS)* (GND/OPEN)	-84 (22)	APPX C C134J1A-84
(I)	MAINTENANCE TEST ENABLE*	-85 (22)	APPX D
(I)	FWC DATA DOWNLOAD INITIATE*	134J1A-86 (22)	APPX D

Interconnect Information
Table 501 (cont)

Fault Warning Computer No. 1

IOB P	Function	Connector Pin	Connects To
(I)	SPARE NZ VALID*	134J1A-87 (22)------------------	APPX G
	RESERVED	-88	
	RESERVED	-89	
(I)	SPARE FMS INSTALLED*	-90 (22)------------------	APPX G
(O)	AUTOTHROTTLE OFF ANNUN (GND/OPEN)	-91 (22)------------------	APPX D
(O)	FWC VALID (GND/OPEN)	-92 ------NC	
(O)	SPARE	-93 ------NC	
(O)	HEADING MISCOMPARE (GND/OPEN)	-94 (22)------------------	STANDBY RMI'S
(O)	RAD ALT TEST (GND/OPEN)	-95 (22)------------------	20J1-T
(O)	B.C. TEST REQUEST (GND/OPEN)	-96 (22)------------------	65J1B-1, C65J1B-1, E65J1B-1
(I)	BUS CON VALID NO. 1*	-97 (22)------------------	65J1A-13, C134J1A-97 REF
(I)	BUS CON VALID NO. 2*	-98 (22)------------------	C65J1A-13, APPX C134J1A-98 C
(I)	BUS CON VALID NO. 3*	-99 (22)------------------	E65J1B-13, C134J1A-99
(I)	SYSTEM TEST 1	-100 (22)-----------------	TBD
(I)	SYSTEM TEST 2	-101 (22)-----------------	TBD
(I)	SYSTEM TEST 3	-102 (22)-----------------	TBD
(O)	EMER CHECKLIST SEL (GND/OPEN)	-103 (22)-----------------	115J1-p, C115J1-p, C134J1A-103
(O)	CHECKLIST INSTALLED (GND/OPEN)	-104 (22)-----------------	115J1-q, C115J1-q, C134J1A-104
(I)	SCROLL-UP*	-105 (22)-----------------	APPX D
(I)	SCROLL-DN*	134J1A-106 (22)-----------------	APPX D

Interconnect Information
Table 501 (cont)

Fault Warning Computer No. 1

IOB P	Function	Connector Pin	Connects To	
(I)	L. FUEL VALVE OPEN (28V/OPEN)	134J1B-1 (22)	A/C WIRING	REF APPX C
(I)	R. FUEL VALVE OPEN (28V/OPEN)	-2 (22)	A/C WIRING	
(I)	L. FUEL VALVE CLOSED (28V/OPEN)	-3 (22)	A/C WIRING	
(I)	R. FUEL VALVE CLOSED (28V/OPEN)	-4 (22)	A/C WIRING	
(I)	COMBINED HYD VALVE OPEN (28V/OPEN)	-5 (22)	A/C WIRING	
(I)	FLT HYD VALVE OPEN (28V/OPEN)	-6 (22)	A/C WIRING	
(I)	COMBINED HYD VALVE CLOSED (28V/OPEN)	-7 (22)	A/C WIRING	
(I)	FLT HYD VALVE CLOSED (28V/OPEN)	-8 (22)	A/C WIRING	
(I)	DC EXT POWER (28V/OPEN)	-9 (22)	A/C WIRING	
(I)	ACFT CONFIGURATION (28V/OPEN)	-10 (22)	A/C WIRING	
	RESERVED	-11		
(I)	L. OIL FILT. B PASS (OPEN/28V)	-12 (22)	A/C WIRING	
(I)	R. OIL FILT. B PASS (OPEN/28V)	-13 (22)	A/C WIRING	
(I)	FLIGHT RECORDER FAIL (OPEN/28V)	-14 (22)	A/C WIRING	
	RESERVED	-15		
(I)	INHIBIT SELECT (28V/OPEN)	-16 (22)	A/C WIRING	
(I)	L COWL PRESS LOW (28V/OPEN)	-17 (22)	A/C WIRING	
(I)	R COWL PRESS LOW (28V/OPEN)	-18 (22)	A/C WIRING	
(I)	VHF COM 1 FAIL (OPEN/28V)	-19 (22)	A/C WIRING	
(I)	VHF COM 2 FAIL (OPEN/28V)	-20 (22)	A/C WIRING	
(I)	VHF COM 3 FAIL (OPEN/28V)	-21 (22)	A/C WIRING	
(I)	L WING TEMP LOW (OPEN/28V)	-22 (22)	A/C WIRING	
(I)	R WING TEMP LOW (OPEN/28V)	-23 (22)	A/C WIRING	
(I)	AUTOPILOT CLUTCH (28V/OPEN)	-24 (22)	APPENDIX D	
(I)	TRIM CLUTCH (28V/OPEN)	-25 (22)	APPENDIX D	
(I)	RUDDER ACTUATOR (28V/OPEN)	-26 (22)	14P1-A, 10J1A-58, C10J1A-58, C134J1B-26, APPENDIX D	
	RESERVED	134J1B-27		

Interconnect Information
Table 501 (cont)

Fault Warning Computer No. 1

IOB P	Function	Connector Pin	Connects To
(I)	APU ALTERNATOR OFF (28V/OPEN)	134J1B-28 (22)	A/C WIRING (APX C)
	RESERVED	-29	
(I)	AUTOTHROTTLE CLUTCH NO. 1 (28V/OPEN)	-30 (20)	122J1A-23, C122J1A-23, L128P1-E, C134J1B-30 (APX C)
	RESERVED	-31	
(I)	AUTOTHROTTLE CLUTCH NO. 2 (28V/OPEN)	-32 (20)	122J1A-24, C122J1A-24, R128P1-E, C134J1B-32 (APX C)
	SPARE	-33	
(B)	DU 1 WRAPAROUND (H)	-34 (22)	130J1-66, C134J1B-34
(B)	DU 1 WRAPAROUND (L)	-35 (22)	130J1-79, C134J1B-35
	SPARE	-36	
	SPARE	-37	
	SPARE	-38	
(B)	DU 2 WRAPAROUND (H)	-39 (22)	131J1-66, C134J1B-39
(B)	DU 2 WRAPAROUND (L)	-40 (22)	131J1-79, C134J1B-40
(B)	DU 3 WRAPAROUND (H)	-41 (22)	132J1-66, C134J1B-41
(B)	DU 3 WRAPAROUND (L)	-42 (22)	132J1-79, C134J1B-42
(B)	DU 4 WRAPAROUND (H)	-43 (22)	133J1-66, C134J1B-43
(B)	DU 4 WRAPAROUND (L)	-44 (22)	133J1-79, C134J1B-44
	SPARE	-45	
	SPARE	-46	
	SPARE	-47	
(B)	DU 5 WRAPAROUND (H)	-48 (22)	C131J1-66, C134J1B-48
(B)	DU 5 WRAPAROUND (L)	-49 (22)	C131J1-79, C134J1B-49
(B)	IRS #2 HIGH SPEED (H) ARINC 429	-50 (22)	C170J1B-H14
(B)	IRS #2 HIGH SPEED (L) ARINC 429	134J1B-51 (22)	C170J1B-H15

Interconnect Information
Table 501 (cont)

Fault Warning Computer No. 1

IOB P	Function		Connector Pin		Connects To
	RESERVED		134J1B-52		
	RESERVED		-53		
	RESERVED		-54		
	RESERVED		-55		
	RESERVED		-56		
	RESERVED		-57		
	SPARE		-58		
	SPARE		-59		
	SPARE		-60		
(B)	SYS ASCB	(H)	-61	(22)	REF
	SECONDARY BUS	(L)	-62	(22)	SECT. 3.3
	SPARE		-63		
	SPARE		-64		
	SPARE		-65		
	SPARE		-66		
	SPARE		-67		
	RESERVED		-68		
	RESERVED		-69		
	RESERVED		-70		
	RESERVED		-71		
	RESERVED		-72		
	RESERVED		-73		
	RESERVED		-74		
	RESERVED		-75		
	RESERVED		-76		
(B)	DU 6 WRAPAROUND	(H)	-77	(22)	C130J1-66, C134J1B-77
(B)	DU 6 WRAPAROUND	(L)	-78	(22)	C130J1-79, C134J1B-78
(B)	IRS #1 HIGH SPEED ARINC 429	(H)	-79	(22)	170J1B-H14
(B)	IRS #1 HIGH SPEED ARINC 429	(L)	-80	(22)	170J1B-H15
(B)	IRS #3 HIGH SPEED ARINC 429	(H)	-81	(22)	E170J1B-H14
(B)	IRS #3 HIGH SPEED ARINC 429	(L)	-82	(22)	E170J1B-H15
	RESERVED		-83		
	RESERVED		-84		
	RESERVED		-85		
	RESERVED		134J1B-86		

Interconnect Information
Table 501 (cont)

Fault Warning Computer No. 1

IOB P	Function	Connector Pin	Connects To	
(O)	RED AURAL (28V/OPEN)	134J1B-87 (22)	A/C WIRING	
(O)	AMBER AURAL (28V/OPEN)	-88 (22)	A/C WIRING	
(O)	BLUE AURAL (28V/OPEN)	-89 (22)	A/C WIRING	
(O)	INHIBIT OUTPUT (28V/OPEN)	-90 (22)	A/C WIRING	
(O)	A/P DISC TEST (28V/OPEN)	-91 (22)	A/C WIRING	
(O)	GEAR HORN INHIBIT (28V/OPEN)	-92 (22)	A/C WIRING	
(O)	EICAS FAIL (OPEN/28V)	-93 (22)	A/C WIRING	
(O)	DOWNLOAD IN PROGRESS (28V/OPEN)	-94 (22)	APPX D	
(O)	ERASE IN PROGRESS (28V/OPEN)	-95 (22)	APPX D	
(O)	AUTOTHROTTLE OFF HORN (28V/OPEN)	-96 (22)	APPX D	REF APPX C
(O)	AP OFF HORN (28V/OPEN)	-97 (22)	APPX D	
(O)	MASTER WARNING ANNUN (28V/OPEN)	-98 (22)	APPENDIX D	
(O)	MASTER CAUTION ANNUN (28V/OPEN)	-99 (22)	APPENDIX D	
(O)	VALT ALERT HORN	-100 (22)	A/C WIRING, C134J1B-100	
(O)	DATA DN LOAD RS232 TXD	-101 (22)	APPX D	
(O)	DATA DN LOAD RS232 RXD	-102 (22)	APPX D	
(O)	DATA DN LOAD RS232 RTS	-103 NC		
(O)	DATA DN LOAD RS232 CTS	-104 NC		
(O)	DATA DN LOAD RS232 DTR	-105 NC		
	SPARE	134J1B-106		

Interconnect Information
Table 501 (cont)

Display Brightness Panel

IOB P	Function	Connector Pin	Connects To
(I)	DU1 DIMMING (H)	135J1-1 (22)	130J1-1
(O)	(W)	-2 (22)	130J1-14
(I)	(L)	-3 (22)	130J1-13
(I)	DU2 DIMMING (H)	-4 (22)	131J1-1
(O)	(W)	-5 (22)	131J1-14
(I)	(L)	-6 (22)	131J1-13
(I)	DU3 DIMMING (H)	-7 (22)	132J1-1
(O)	(W)	-8 (22)	132J1-14
(I)	(L)	-9 (22)	132J1-13
(I)	DU4 DIMMING (H)	-10 (22)	133J1-1
(O)	(W)	-11 (22)	133J1-14
(I)	(L)	-12 (22)	133J1-13
(I)	DU5 DIMMING (H)	-13 (22)	C131J1-1
(O)	(W)	-14 (22)	C131J1-14
(I)	(L)	-15 (22)	C131J1-13
(I)	DU6 DIMMING (H)	-16 (22)	C130J1-1
(O)	(W)	-17 (22)	C130J1-14
(I)	(L)	-18 (22)	C130J1-13
(P)	PANEL LIGHTING (5V) HI	-19 (22)	A/C 5V LIGHTING
(P)	LIGHTING RTN	-20 (22)	A/C LIGHTING RTN
(P)	CHASSIS GND	-21 (22)	A/C CHASSIS GND
	SPARE	135J1-22	

Interconnect Information
Table 501 (cont)

Data Acquisition Unit No. 1

IOB P	Function	Connector Pin	Connects To
	RESERVED	136J1A-1	
	SPARE	-2	
	SPARE	-3	
(B)	SYS ASCB PRIMARY BUS (H)	-4 (22)	REF SECTION 3.3
	SPARE	-5	
(B)	SYS ASCB PRIMARY BUS (L)	-6 (22)	REF SECTION 3.3
	SPARE	-7	
(I)	ENG PRESS RATIO (H)	-8 (22)	A/C LEFT ENGINE PRESSURE RATIO TRANSMITTER
(I)	ARINC 429 (L)	-9 (22)	
(I)	DAU IDENT A00	-10 ------NC	REF APPENDIX C
	RESERVED	-11	
(I)	FUEL FLOW (IMPELLER)	-12 (22)	A/C LEFT FUEL FLOW TRANSMITTER
(I)	(COMMON)	-13 (22)	
(I)	(DRUM)	-14 (22)	
	RESERVED	-15	
(I)	HIGH PRESS (H)	-16 (22)	A/C LEFT HIGH PRESSURE COM-PRESSOR TACH TRANSMITTER
(I)	COMPRESSOR TACH (L)	-17 (22)	
(I)	LOW PRESS (H)	-18 (22)	A/C LEFT LOW PRESSURE COM-PRESSOR TACH TRANSMITTER
(I)	COMPRESSOR TACH (L)	-19 (22)	
(I)	AC VOLTS/FREQ (H)	-20 ------NC	
(I)	(L)	-21 ------NC	
(I)	ESS/AUX AC (H)	-22 ------NC	
(I)	VOLTS/FREQ (L)	-23 ------NC	
(I)	(A)	-24 ------NC	
(I)	AC % LOAD (B)	-25 ------NC	
(I)	(C)	-26 ------NC	
(I)	(N)	-27 ------NC	
(I)	COMB HYDRAULIC (H)	-28 (22)	TO FLT HYD PRESS TRANSMITTER
(I)	PRESS (L)	-29 (22)	
	SPARE	-30	
	SPARE	-31	
(I)	UTILITY HYD (H)	-32 (22)	TO UTILITY HYD PRESS TRANSMITTER
(I)	PRESS (L)	136J1A-33 (22)	

Interconnect Information
Table 501 (cont)

Data Acquisition Unit No. 1

IOB P	Function		Connector Pin		Connects To
	SPARE		136J1A-34		
	SPARE		-35		
(I)	APPLIED BRAKE	(H)	-36	(22)	TO APPLIED BRAKE PRESS TRANSMITTER
(I)	PRESS	(L)	-37	(22)	
(I)	ENGINE OIL	(H)	-38	(22)	TO ENGINE OIL PRESS TRANSMITTER
(I)	PRESS	(L)	-39	(22)	
(I)	LP TURBINE	(H)	-40	(22)	TO FORE TURBINE VIBRATION INDICATION TRANSMITTER
(I)	VIBRATION INDICATION	(L)	-41	(22)	
(I)	HP TURBINE	(H)	-42	(22)	TO AFT TURBINE VIBRATION INDICATION TRANSMITTER
(I)	VIBRATION INDICATION	(L)	-43	(22)	
(I)	FUEL QUANTITY	(H)	-44	(22)	TO LEFT FUEL QUANITY TRANSMITTER
(I)		(L)	-45	(22)	
(I)	BLEED AIR PRESS	(H)	-46	(22)	TO LEFT BLEED AIR MANIFOLD PRESS TRANSMITTER
(I)		(L)	-47	(22)	
	SPARE		-48		
	SPARE		-49		
(I)	RADIO ALTIMETER	(H)	-50	(22)	C10J2A-36, 10J2B-26, 20J1-W
(I)		(L)	-51	(22)	C10J2A-37, 10J2B-27, 20J1-N, 20J1-E
(I)	BATTERY AMPS	(H)	-52	NC	
(I)		(L)	-53	NC	
(I)	BATTERY VOLTS	(H)	-54	NC	
(I)		(L)	-55	NC	
(I)	COMB HYD QTY	(H)	-56	(22)	TO FLT HYD QUANTITY TRANSMITTER
(I)		(L)	-57	(22)	
	SPARE		-58		
	SPARE		136J1A-59		

Interconnect Information
Table 501 (cont)

Data Acquisition Unit No. 1

IOB P	Function		Connector Pin		Connects To
(I)	APU EXHAUST	(H)	136J1A-60	(22)	TO APU GAS TEMP
(I)	GAS TEMP	(L)	-61	(22)	TRANSMITTER
(I)	APU RPM	(H)	-62	(22)	TO APU TURBINE
(I)		(L)	-63	(22)	SPEED TRANSMITTER
(I)	ENG FUEL TEMP	(H)	-64	(22)	TO ENG FUEL TEMP
(I)		(L)	-65	(22)	TRANSMITTER
(I)	FUEL TANK TEMP	(H)	-66	(22)	TO FUEL TANK TEMP
(I)		(L)	-67	(22)	TRANSMITTER
	SPARE		-68		
	SPARE		-69		
	SPARE		-70		
	SPARE		-71		
	SPARE		-72		
	SPARE		-73		
	RESERVED		-74		
	RESERVED		-75		
(I)	DAU IDENT A01		-76	(22)	SIG GND REF APPENDIX C
(I)	ENG OIL TEMP	(H)	-77	(22)	TO LEFT ENG
(I)		(L)	-78	(22)	OIL TEMP
	SPARE		-79		
	SPARE		-80		
	SPARE		-81		
	SPARE		-82		
(I)	DC VOLTS	(H)	-83		NC
(I)		(L)	-84		NC
(I)	ESS DC VOLTS	(H)	-85		NC
(I)		(L)	-86		NC
	SPARE		-87		
	SPARE		-88		
	SPARE		-89		
	SPARE		-90		
(I)	DC % LOAD	(H)	-91		NC
(I)		(L)	-92		NC
	SPARE		-93		
	SPARE		-94		
	RESERVED		136J1A-95		

Interconnect Information
Table 501 (cont)

Data Acquisition Unit No. 1

IOB P	Function	Connector Pin		Connects To
	RESERVED	136J1A-96		
(P)	CHASSIS GND	-97 (22)	-------------------	A/C CHASSIS GND
	SPARE	-98		
	RESERVED	-99		
(I)	SIGNAL GND	-100 (22)	------------------	A/C SIGNAL GND
	SPARE	-101		
	RESERVED	-102		
(P)	PWR GND	-103 (22)	------------------	A/C PWR GND
	SPARE	-104		
	RESERVED	-105		
(PO	28 V DC PWR	136J1A-106 (22)	------------------	A/C 28 V DC PWR

Interconnect Information
Table 501 (cont)

Data Acquisition Unit No. 1

IOB P	Function	Connector Pin	Connects To
(I)	TURBINE GAS (ALUMEL)	136J1B-1 (22)	LEFT TURBINE GAS TEMP TRANSMITTER AND ENG STBY INSTRUMENTS
(I)	TEMP (CHROMEL)	-2 (22)	
	SPARE	-3	
(B)	SYS ASCB SECONDARY BUS (H)	-4 (22)	REF SECTION 3.3
	SPARE	-5	
(B)	SYS ASCB SECONDARY BUS (L)	-6 (22)	
	SPARE	-7	
	RESERVED	-8	
(I)	L. REV UNLOCK (28V/OPEN)	-9 (22)	A/C THRUST REV (LEFT)
(I)	L. FUEL PRESS LOW (28V/OPEN)	-10 (22)	A/C FUEL PRESS LOW DISCRETE
(I)	L. FUEL LOW LEVEL (28V/OPEN)	-11 (22)	A/C L. FUEL LOW LEVEL DISCRETE
(I)	L. PYLON HOT (28V/OPEN)	-12 (22)	A/C L. PYLON HOT DISCRETE
(I)	L. ENGINE HOT (28V/OPEN)	-13 (22)	A/C L. ENGINE HOT DISCRETE
(I)	L. OIL PRESS LOW (28V/OPEN)	-14 (22)	A/C L. OIL PRESS LOW DISCRETE
(I)	CALL (28V/OPEN)	-15 (22)	A/C CALL DISCRETE
(I)	L. IGNITION 1 (28V/OPEN)	-16 (22)	A/C L. IGNITION DISCRETE
(I)	L. WING ANTI-ICE ON (28V/OPEN)	-17 (22)	A/C L. WING WARM DISCRETE
(I)	L. COWL ANTI-ICE ON (28V/OPEN)	-18 (22)	A/C L. ENG A/I ON DISCRETE
(I)	RAD ALT 1 FAIL (OPEN/28V)	-19 (22)	10J2B-28, C10J2A-38, 20J1-Y
(I)	CABIN PRESS LOW (28V/OPEN)	-20 (22)	A/C CABIN PRESS LOW DISCRETE
(I)	L. IGNITION 2 (28V/OPEN)	-21 (22)	A/C L.IGNITION 2, DISCRETE
(I)	COMBINED HYD HOT (28V/OPEN)	136J1B-22 (22)	A/C COMB HYD HOT DISCRETE

Interconnect Information
Table 501 (cont)

Data Acquisition Unit No. 1

IOB P	Function	Connector Pin	Connects To
(I)	COMBINED HYD SYS FAIL (28V/OPEN)	136J1B-23 (22)-------------------	A/C COMB HYD SYS DISCRETE
(I)	L. FUEL FILTER FAIL (28V/OPEN)	-24 (22)-------------------	A/C L. FUEL FILTER FAIL DISCRETE
(I)	L. AIL HYD SHUTOFF (28V/OPEN)	-25 (22)-------------------	A/ L. AIL HYD SHUTOFF DISCRETE
(I)	L. BLEED HOT (28V/OPEN)	-26 (22)-------------------	A/C L. BLEED HOT DISCRETE
(I)	L. BLEED PRESS HIGH (28V/OPEN)	-27 (22)-------------------	A/C L. BLEED PRESS HIGH DISCRETE
(I)	L. START VALVE OPEN (28V/OPEN)	-28 (22)-------------------	A/C L. START VALVE OPEN DISCRETE
(I)	L. ALTERNATOR HOT (28V/OPEN)	-29 (22)-------------------	A/C L. ALT HOT DISCRETE
(I)	L. CONVERTER HOT (28V/OPEN)	-30 (22)-------------------	A/C L. CONV HOT DISCRETE
(I)	SMOKE DETECT (28V/OPEN)	-31 (22)-------------------	A/C SMOKE DETECT DISCRETE
(I)	L. CONV FAN FAIL (28V/OPEN)	-32 (22)-------------------	A/C L. CONV FAN FAIL DISCRETE
(I)	ELEV. COMB HYD OFF (28V/OPEN)	-33 (22)-------------------	A/C ELEV COMB HYD OFF DISCRETE
(I)	APU ALTERNATOR HOT (28V/OPEN)	-34 (22)-------------------	A/C APU ALT HOT DISCRETE
(I)	L. COOL TURB HOT (28V/OPEN)	-35 (22)-------------------	A/C L. COOL TURB HOT DISCRETE
(I)	L. AC PWR FAIL (28V/OPEN)	-36 (22)-------------------	A/C L. AC PWR FAIL DISCRETE
(I)	L. DC PWR FAIL (28V/OPEN)	-37 (22)-------------------	A/C L. DC PWR FAIL DISCRETE
(I)	L. STALL BARR FAIL (OPEN/28V)	-38 (22)-------------------	A/C L. STALL BARR FAIL DISCRETE
(I)	L. EMER BATT DISCHG (28V/OPEN)	-39 (22)-------------------	A/C L. EMER BATT DISCHG DISCRETE
(I)	L. WING HOT (28V/OPEN)	136J1B-40 (22)-------------------	A/C L. WING HOT DISCRETE

Interconnect Information
Table 501 (cont)

Data Acquisition Unit No. 1

IOB P	Function	Connector Pin	Connects To
(I)	L. MAIN FUEL FAIL (28V/OPEN)	136J1B-41 (22)-------------------	A/C L. MAIN FUEL FAIL DISCRETE
(I)	L. ALT FUEL FAIL (28V/OPEN)	-42 (22)-------------------	A/C L. ALT FUEL FAIL DISCRETE
	RESERVED	-43	
(I)	STALL BARR 1 (28V/OPEN)	-44 (22)-------------------	A/C STALL BARR 1 DISCRETE
(I)	CABIN OXYGEN ON (28V/OPEN)	-45 (22)-------------------	A/C CABIN OXY ON DISCRETE
(I)	AUX AC PWR FAIL (28V/OPEN)	-46 (22)-------------------	A/C AUX AC PWR FAIL DISCRETE
(I)	APU FIRE (28V/OPEN)	-47 (22)-------------------	A/C APU FIRE DISCRETE
(I)	AFT EQUIP HOT (28V/OPEN)	-48 (22)-------------------	A/C AFT EQUIP HOT DISCRETE
	SPARE	-49	
(I)	AUX HYD HOT (28V/OPEN)	-50 (22)-------------------	A/C AUX HYD HOT DISCRETE
(I)	ISOLATION VALVE (28V/OPEN)	-51 (22)-------------------	A/C ISOLATION VALVE DISCRETE
(I)	EX BATT SW ON (28V/OPEN)	-52 (22)-------------------	A/C EX BATT SW ON DISCRETE
(I)	RUDDER COMB HYD OFF (28V/OPEN)	-53 (22)-------------------	A/C RUDD COMB HYD OFF DISCRETE
(I)	SINGLE RUDDER LIMIT (28V/OPEN)	-54 (22)-------------------	A/C SINGLE RUDD LIMIT DISCRETE
(I)	STAB/FLAP (28V/OPEN)	-55 (22)-------------------	A/C STAB/FLAP DISCRETE
(I)	EPMP BATT SW OFF (28V/OPEN)	-56 (22)-------------------	A/C EPMP BATT SW OFF DISCRETE
(I)	STALL BARRIER OFF (28V/OPEN)	-57 (22)-------------------	A/C STALL BARRIER OFF DISCRETE
(I)	TRANSFORMER RECTIFIER FAIL (28V/OPEN)	-58 (22)-------------------	A/C TRU FAIL DISCRETE
(I)	EPMP PS FAIL (28V/OPEN)	-59 (22)-------------------	A/C EPMP PS FAIL DISCRETE
(I)	UTILITY HYD OFF (28V/OPEN)	136J1B-60 (22)-------------------	A/C UTILITY HYD OFF DISCRETE

Interconnect Information
Table 501 (cont)

Data Acquisition Unit No. 1

IOB P	Function	Connector Pin	Connects To
(I)	LP/HP SYNC SELECT (OPEN/28V)	136J1B-61 (22)-------------------	A/C LP/HP SYNC SELECT DISCRETE
	SPARE	-62	
	SPARE	-63	
(I)	L. COWL ANTI-ICE OVHT (28V/OPEN)	-64 (22)-------------------	A/C L. COWL ANTI-ICE OVHT DISCRETE
	SPARE	-65	
(I)	L. ENGINE FIRE*	-66 (22)-------------------	A/C L. ENGINE FIRE DISCRETE
(I)	DAU IDENT B00	-67 ------NC	REF APPENDIX C
(I)	FUEL XFLOW OPEN*	-68 (22)-------------------	A/C FUEL XFLOW OPEN DISCRETE
(I)	ENG FIRE LOOP ALERT*	-69 (22)-------------------	A/C ENG FIRE LOOP ALERT DISCRETE
(I)	CABIN DFRN 1 (>9.8)* (RED ANNUN)	-70 (22)-------------------	A/C CABIN DFRN 1 DISCRETE
(I)	L. PITOT HT FAIL*	-71 (22)-------------------	A/C L. PITOT HT FAIL DISCRETE
(I)	L. ALTERNATOR BEARING FAIL*	-72 (22)-------------------	A/C L. ALT BEARING FAIL DISCRETE
(I)	BRAKE MAINT REQ'D (OPEN/GND)	-73 (22)-------------------	A/C BRAKE SYS DISCRETE
(I)	BRAKE FAIL (OPEN/GND)	-74 (22)-------------------	A/C BRAKE FAIL DISCRETE
(I)	APU MASTER WARN*	-75 (22)-------------------	A/C APU MASTER WARN DISCRETE
(I)	STBY PITOT HT FAIL*	-76 (22)-------------------	A/C STBY PITOT HT FAIL DISCRETE
(I)	MAINT TEST ENABLE*	-77 (22)-------------------	APPENDIX D
(I)	DU FAN 1 FAIL (OPEN/GND)	-78 (22)-------------------	DU FAN 1 FAIL DISCRETE
(I)	DAU IDENT B01	-79 (22)-------------------	SIG GND REF APPENDIX C
(I)	BATT CHARGER 1 FAIL (OPEN/GND)	-80 (22)-------------------	A/C BATT CHARGER 1 DISCRETE
(I)	WOW*	136J1B-81 (22)-------------------	A/C NUTCRACKER DISCRETE

Interconnect Information
Table 501 (cont)

Data Acquisition Unit No. 1

IOB P	Function	Connector Pin	Connects To
	RESERVED	136J1B-82	
	SPARE	-83	
	SPARE	-84	
	SPARE	-85	
	SPARE	-86	
	SPARE	-87	
	SPARE	-88	
	SPARE	-89	
	SPARE	-90	
	SPARE	-91	
	SPARE	-92	
	SPARE	-93	
	RESERVED	-94	
	RESERVED	-95	
	RESERVED	-96	
	RESERVED	-97	
	SPARE	-98	
	RESERVED	-99	
(I)	SIGNAL GND	-100 (22)------------------	A/C SIGNAL GND
	SPARE	-101	
	RESERVED	-102	
(P)	POWER GND	-103 (22)------------------	A/C PWR GND
	SPARE	-104	
	RESERVED	-105	
(P)	28 V DC PWR	136J1B-106 (22)------------------	A/C 28 V DC PWR

Interconnect Information
Table 501 (cont)

Data Acquisition Unit No. 2

IOB P	Function	Connector Pin	Connects To
	RESERVED	137J1A-1	
	SPARE	-2	
	SPARE	-3	
(B)	SYS ASCB PRIMARY BUS (H)	-4 (22)	REF SECTION 3.3
	SPARE	-5	
(B)	SYS ASCB PRIMARY BUS (L)	-6 (22)	REF SECTION 3.3
	SPARE	-7	
(I)	ENG PRESS RATIO (H)	-8 (22)	A/C RIGHT ENGINE PRESSURE RATIO TRANSMITTER
(I)	ARINC 429 (L)	-9 (22)	
(I)	DAU IDENT A00	-10 (22)	SIG GND REF APPENDIX C
	RESERVED	-11	
(I)	FUEL FLOW (IMPELLER)	-12 (22)	A/C RIGHT FUEL FLOW TRANSMITTER
(I)	(COMMON)	-13 (22)	
(I)	(DRUM)	-14 (22)	
	RESERVED	-15	
(I)	HIGH PRESS (H)	-16 (22)	A/C RIGHT HIGH PRESSURE COMPRESSOR TACH TRANSMITTER
(I)	COMPRESSOR TACH (L)	-17 (22)	
(I)	LOW PRESS (H)	-18 (22)	A/C RIGHT LOW PRESSURE COMPRESSOR TACH TRANSMITTER
(I)	COMPRESSOR TACH (L)	-19 (22)	
(I)	AC VOLTS/FREQ (H)	-20	NC
(I)	(L)	-21	NC
(I)	AUX AC (H)	-22	NC
(I)	VOLTS/FREQ (L)	-23	NC
(I)	(A)	-24	NC
(I)	AC % LOAD (B)	-25	NC
(I)	(C)	-26	NC
(I)	(N)	-27	NC
(I)	FLT HYDRAULIC (H)	-28 (22)	TO COMB HYD PRESS TRANSMITTER
(I)	PRESS (L)	-29 (22)	
	SPARE	-30	
	SPARE	-31	
(I)	AUX HYD PRESS (H)	-32 (22)	TO AUX HYD PRESS TRANSMITTER
(I)	(L)	137J1A-33 (22)	

Interconnect Information
Table 501 (cont)

Data Acquisition Unit No. 2

IOB P	Function		Connector Pin		Connects To
	SPARE		137J1A-34		
	SPARE		-35		
(I)	APPLIED BRAKE PRESS	(H)	-36	(22)	TO APPLIED BRAKE PRESS TRANSMITTER
(I)		(L)	-37	(22)	
(I)	ENGINE OIL	(H)	-38	(22)	TO ENGINE OIL PRESS TRANSMITTER
(I)	PRESS	(L)	-39	(22)	
(I)	LP TURBINE	(H)	-40	(22)	TO FORE TURBINE VIBRATION INDICATION TRANSMITTER
(I)	VIBRATION INDICATION	(L)	-41	(22)	
(I)	HP TURBINE	(H)	-42	(22)	TO AFT TURBINE VIBRATION INDICATION TRANSMITTER
(I)	VIBRATION INDICATION	(L)	-43	(22)	
(I)	FUEL QUANTITY	(H)	-44	(22)	TO RIGHT FUEL QUANITY TRANSMITTER
(I)		(L)	-45	(22)	
(I)	BLEED AIR PRESS	(H)	-46	(22)	TO RIGHT BLEED AIR MANIFOLD PRESS TRANSMITTER
(I)		(L)	-47	(22)	
	SPARE		-48		
	SPARE		-49		
(I)	RADIO ALTIMETER	(H)	-50	(22)	10J2A-36, C20J1-W, C10J2B-26
(I)		(L)	-51	(22)	10J2A-37, C20J1-N, C20J1-E, C10J2B-27
(I)	BATTERY AMPS	(H)	-52	NC	
(I)		(L)	-53	NC	
(I)	BATTERY VOLTS	(H)	-54	NC	
(I)		(L)	-55	NC	
(I)	FLT HYD QTY	(H)	-56	(22)	TO FLT HYD QUANTITY TRANSMITTER
(I)		(L)	-57	(22)	
	SPARE		-58		
	SPARE		137J1A-59		

Interconnect Information
Table 501 (cont)

Data Acquisition Unit No. 2

IOB P	Function		Connector Pin		Connects To
	RESERVED		137J1A-60		
	RESERVED		-61		
	RESERVED		-62		
	RESERVED		-63		
(I)	ENG FUEL TEMP	(H)	-64	(22)	TO ENG FUEL TEMP TRANSMITTER
(I)		(L)	-65	(22)	
	SPARE		-66		
	SPARE		-67		
	SPARE		-68		
	SPARE		-69		
(I)	AUX AC % LOAD	(A)	-70	NC	
(I)		(B)	-71	NC	
(I)		(C)	-72	NC	
(I)		(N)	-73	NC	
	RESERVED		-74		
	RESERVED		-75		
(I)	DAU IDENT A01		-76	NC	REF APPENDIX C
(I)	ENG OIL TEMP	(H)	-77	(22)	TO RIGHT ENG OIL TEMP
(I)		(L)	-78	(22)	
	SPARE		-79		
	SPARE		-80		
	SPARE		-81		
	SPARE		-82		
(I)	DC VOLTS	(H)	-83	NC	
(I)		(L)	-84	NC	
(I)	AUX DC VOLTS	(H)	-85	NC	
(I)		(L)	-86	NC	
	SPARE		-87		
	SPARE		-88		
	SPARE		-89		
	SPARE		-90		
(I)	DC % LOAD	(H)	-91	NC	
(I)		(L)	-92	NC	
(I)	AUX DC % LOAD	(H)	-93	NC	
(I)		(L)	-94	NC	
	RESERVED		-95		
	RESERVED		137J1A-96		

Interconnect Information
Table 501 (cont)

Data Acquisition Unit No. 2

IOB P	Function	Connector Pin		Connects To
(P)	CHASSIS GND	137J1A-97 (22)	-------------------	A/C CHASSIS GND
	SPARE	-98		
	RESERVED	-99		
(I)	SIGNAL GND	-100 (22)	------------------	A/C SIGNAL GND
	SPARE	-101		
	RESERVED	-102		
(P)	PWR GND	-103 (22)	------------------	A/C PWR GND
	SPARE	-104		
	RESERVED	-105		
(P)	28 V DC PWR	137J1A-106 (22)	------------------	A/C 28 V DC PWR

Interconnect Information
Table 501 (cont)

Data Acquisition Unit No. 2

IOB P	Function	Connector Pin		Connects To
(I)	TURBINE GAS (ALUMEL)	137J1B-1 (22)	--------------------	RIGHT TURBINE GAS TEMP
(I)	TEMP (CHROMEL)	-2 (22)	--------------------	TRANSMITTER AND ENG STBY INSTRUMENTS
	SPARE	-3		
(B)	SYS ASCB SECONDARY BUS (H)	-4 (22)	--------------------	REF SECTION 3.3
	SPARE	-5		
(B)	SYS ASCB SECONDARY BUS (L)	-6 (22)	--------------------	REF SECTION 3.3
	SPARE	-7		
	RESERVED	-8		
(I)	R. THRUST REV UNLOCK (28V/OPEN)	-9 (22)	--------------------	A/C R. THRUST REV UNLOCK DISCRETE
(I)	R. FUEL PRESS LOW (28V/OPEN)	-10 (22)	-------------------	A/C R. FUEL PRESS LOW DISCRETE
(I)	R. FUEL LOW LEVEL (28V/OPEN)	-11 (22)	-------------------	A/C R. FUEL LOW LEVEL DISCRETE
(I)	R. PYLON HOT (28V/OPEN)	-12 922)	-------------------	A/C R. PYLON HOT DISCRETE
(I)	R. ENGINE HOT (28V/OPEN)	-13 (22)	-------------------	A/C R. ENGINE HOT DISCRETE
(I)	R. OIL PRESS LOW (28V/OPEN)	-14 (22)	-------------------	A/C R. OIL PRESS LOW DISCRETE
(I)	CALL (28V/OPEN)	-15 (22)	-------------------	A/C CALL DISCRETE
(I)	R. IGNITION 1 (28V/OPEN)	-16 (22)	-------------------	A/C R.IGNITION 1 DISCRETE
(I)	R. WING ANTI-ICE ON (28V/OPEN)	-17 (22)	-------------------	A/C R. WING A/I DISCRETE
(I)	R. COWL ANTI-ICE ON (28V/OPEN)	-18 (22)	-------------------	A/C R. COWL A/I DISCRETE
(I)	RAD ALT 2 FAIL (OPEN/28V)	-19 (22)	-------------------	10J2A-38, C10J2B-28, C20J1-Y
(I)	MAIN CABIN DOORS UNLOCKED (28V/OPEN)	-20 (22)	-------------------	A/C MAIN CABIN DOORS DISCRETE
(I)	R. IGNITION 2 (28V/OPEN)	-21 (22)	-------------------	A/C R.IGNITION 2 DISCRETE
(I)	FLT HYD HOT (28V/OPEN)	137J1B-22 (22)	-------------------	A/C FLT HYD HOT DISCRETE

Interconnect Information
Table 501 (cont)

Data Acquisition Unit No. 2

IOB P	Function	Connector Pin		Connects To
(I)	FLT HYD SYS FAIL (28V/OPEN)	137J1B-23	(22)-------------------	A/C FLT HYD SYS FAIL DISCRETE
(I)	R. FUEL FILTER FAIL (28V/OPEN)	-24	(22)-------------------	A/C R. FUEL FILTER FAIL DISCRETE
(I)	R. AIL HYD SHUTOFF (28V/OPEN)	-25	(22)-------------------	A/ R. AIL HYD SHUTOFF DISCRETE
(I)	R. BLEED HOT (28V/OPEN)	-26	(22)-------------------	A/C R. BLEED HOT DISCRETE
(I)	R. BLEED PRESS HIGH (28V/OPEN)	-27	(22)-------------------	A/C R. BLEED PRESS HIGH DISCRETE
(I)	R. START VALVE OPEN (28V/OPEN)	-28	(22)-------------------	A/C R. START VALVE OPEN DISCRETE
(I)	R. ALTERNATOR HOT (28V/OPEN)	-29	(22)-------------------	A/C R. ALT HOT DISCRETE
(I)	R. CONVERTER HOT (28V/OPEN)	-30	(22)-------------------	A/C R. CONV HOT DISCRETE
(I)	FLAME DETECT (28V/OPEN)	-31	(22)-------------------	A/C FLAME DETECT DISCRETE
(I)	R. CONV FAN FAIL (28V/OPEN)	-32	(22)-------------------	A/C R. CONV FAN FAIL DISCRETE
(I)	ELEV. FLT HYD OFF (28V/OPEN)	-33	(22)-------------------	A/C ELEV FLT HYD OFF DISCRETE
	RESERVED	-34		
(I)	R. COOL TURB HOT (28V/OPEN)	-35	(22)-------------------	A/C R. COOL TURB HOT DISCRETE
(I)	R. AC PWR FAIL (28V/OPEN)	-36	(22)-------------------	A/C R. AC PWR FAIL DISCRETE
(I)	R. DC PWR FAIL (28V/OPEN)	-37	(22)-------------------	A/C R. DC PWR FAIL DISCRETE
(I)	R. STALL BARR FAIL (OPEN/28V)	-38	(22)-------------------	A/C R. STALL BARR FAIL DISCRETE
(I)	R. EMER BATT DISCHG (28V/OPEN)	-39	(22)-------------------	A/C R. EMER BATT DISCHG DISCRETE
(I)	R. WING HOT (28V/OPEN)	137J1B-40	(22)-------------------	A/C WIRING R. WING HOT DISCRETE

Interconnect Information
Table 501 (cont)

Data Acquisition Unit No. 2

IOB P	Function	Connector Pin	Connects To
(I)	R. MAIN FUEL FAIL (28V/OPEN)	137J1B-41 (22)-------------------	A/C WIRING R. MAIN FUEL FAIL DISCRETE
(I)	R. ALT FUEL FAIL (28V/OPEN)	-42 (22)-------------------	A/C R. ALT FUEL FAIL DISCRETE
	RESERVED	-43	
(I)	STALL BARR 2 (28V/OPEN)	-44 (22)-------------------	A/C STALL BARR 2 DISCRETE
(I)	CABIN PRESS MAN (28V/OPEN)	-45 (22)-------------------	A/C CABIN PRESS MAN DISCRETE
(I)	AC EXT PWR (28V/OPEN)	-46 (22)-------------------	A/C AC EXT PWR DISCRETE
	SPARE	-47	
(I)	FWD RAD RACK HOT (28V/OPEN)	-48 (22)-------------------	A/C FWD RAD RACK HOT DISCRETE
(I)	SPD BRAKE EXTENDED (28V/OPEN)	-49 (22)-------------------	A/C SPD BRAKE EXTENDED DISCRETE
(I)	TRANSFORMER RECTIFIER UNIT HOT (28V/OPEN)	-50 (22)-------------------	A/C TRU DISCRETE
(I)	ENGINE SYNC ON (28V/OPEN)	-51 (22)-------------------	A/C ENG SYNC DISCRETE
(I)	ICE DET (28V/OPEN)	-52 (22)-------------------	A/C ICE DET DISCRETE
(I)	RUDDER FLT HYD OFF (28V/OPEN)	-53 (22)-------------------	A/C RUDD FLT HYD OFF DISCRETE
(I)	RUDDER LIMIT (28V/OPEN)	-54 (22)-------------------	A/C RUDDER LIMIT DISCRETE
(I)	GND SPOILER FAIL (28V/OPEN)	-55 (22)-------------------	A/C GND SPOILER FAIL DISCRETE
	SPARE	-56	
(I)	TONE GEN FAIL (OPEN/28V)	-57 (22)-------------------	A/C TONE GEN FAIL DISCRETE
(I)	BAGGAGE DOORS UNLOCKED (28V/OPEN)	-58 (22)-------------------	A/C BAGGAGE DOORS DISCRETE
(I)	SERVICE DOORS OPEN (28V/OPEN)	-59 (22)-------------------	A/C SERVICE DOORS DISCRETE
	SPARE	137J1B-60	

Interconnect Information
Table 501 (cont)

Data Acquisition Unit No. 2

IOB P	Function	Connector Pin	Connects To
(I)	GND PROX VALID (OPEN/28V)	137J1B-61 (22)-------------------	A/C GND PROX VALID DISCRETE
	SPARE	-62	
	SPARE	-63	
(I)	R. COWL ANTI-ICE OVRT (28V/OPEN)	-64 (22)-------------------	A/C R. COWL ANTI-ICE DISCRETE
	SPARE	-65	
(I)	R. ENGINE FIRE*	-66 (22)-------------------	A/C R. ENGINE FIRE DISCRETE
(I)	DAU IDENT B00	-67 (22)-------------------	SIG GND REF APPENDIX C
(I)	FUEL INTK OPEN*	-68 (22)-------------------	A/C FUEL INTK OPEN DISCRETE
(I)	ENG FAULT LOOP ALERT*	-69 (22)-------------------	A/C ENG FAULT LOOP ALERT DISCRETE
(I)	CABIN DFRN 2 (>9.6)* (AMBER ANNUN)	-70 (22)-------------------	A/C CABIN DFRN 2 DISCRETE
(I)	R. PITOT HEAT FAIL*	-71 (22)-------------------	A/C R. PITOT HT FAIL DISCRETE
(I)	R. ALTERNATOR BEARING FAIL*	-72 (22)-------------------	A/C R. BEARING FAIL DISCRETE
(I)	BRAKE PEDAL (OPEN/GND)	-73 (22)-------------------	A/C BRAKE PEDAL DISCRETE
(I)	ANTI-SKID FAIL (OPEN/GND)	-74 (22)-------------------	A/C ANTI-SKID FAIL DISCRETE
(I)	APU ALT BRG FAIL (OPEN/GND)	-75 (22)-------------------	A/C APU ALT BRG FAIL DISCRETE
(I)	TAT PROBE HT FAIL*	-76 (22)-------------------	A/C TAT PROBE HT FAIL DISCRETE
(I)	MAINT TEST ENABLE*	-77 (22)-------------------	APPENDIX D
(I)	DU FAN 2 FAIL (OPEN/GND)	-78 (22)-------------------	DU FAN 2 FAIL DISCRETE
(I)	DAU IDENT B01	-79 ------NC	REF APPENDIX C
(I)	BATT CHARGER 2 FAIL (OPEN/GND)	-80 (22)-------------------	A/C BATT CHARGER 2 DISCRETE
(I)	WOW*	137J1B-81 (22)-------------------	A/C NUTCRACKER DISCRETE

Interconnect Information
Table 501 (cont)

Data Acquisition Unit No. 2

IOB P	Function	Connector Pin	Connects To
	RESERVED	137J1B-82	
	SPARE	-83	
	SPARE	-84	
	SPARE	-85	
	SPARE	-86	
	SPARE	-87	
	SPARE	-88	
	SPARE	-89	
	SPARE	-90	
	SPARE	-91	
	SPARE	-92	
	RESERVED	-93	
	RESERVED	-94	
	RESERVED	-95	
	RESERVED	-96	
	RESERVED	-97	
	SPARE	-98	
	RESERVED	-99	
(I)	SIGNAL GND	-100 (22)------------------	A/C SIGNAL GND
	SPARE	-101	
	RESERVED	-102	
(P)	POWER GND	-103 (22)------------------	A/C PWR GND
	SPARE	-104	
	RESERVED	-105	
(P)	28 V DC PWR	137J1B-106 (22)------------------	A/C 28 V DC PWR

Interconnect Information
Table 501 (cont)

GLOBAL POSITIONING SYSTEM SENSOR UNIT No. 1 (OPTIONAL)

IOB P	Function	Connector Pin	Connects To
(O)	GPSSU FAULT	149J1-1 (22)	APPX C
(B)	DADC1 429 INPUT (H)	-6 (22)	DADC #1
(B)	DADC1 429 INPUT (L)	-7 (22)	DADC #1
	SHIELD GND		SHIELD GND
(O)	INPUT DISCRETE RETURN	-8 ----NC	
(O)	TIME MARK #2 (H)	-9 ----NC	
(O)	TIME MARK #2 (L)	-22 ----NC	
(B)	DADC2 429 INPUT (H)	-10 (22)	DADC #2
(B)	DADC2 429 INPUT (L)	-11 (22)	DADC #2
	SHIELD GND		SHIELD GND
(O)	TIME MARK #3 (H)	-13 ----NC	
(O)	TIME MARK #3 (L)	-14 ----NC	
(B)	IRS1/FMS1 429 INPUT (H)	-18 (22)	121J1A-50
(B)	IRS1/FMS1 429 INPUT (L)	-37 (22)	121J1A-51
	SHIELD GND		SHIELD GND
(O)	TIME MARK #1 (H)	-19 ----NC	
(O)	TIME MARK #1 (L)	-20 ----NC	
(I)	429 OUTPUT HS/LS SELECT*	-21 ----NC	APPX C
(B)	429 OUTPUT #2 (H)	-24 (22)	C121J1A-23
(B)	429 OUTPUT #2 (L)	-25 (22)	C121J1A-24
	SHIELD GND		SHIELD GND
(B)	IRS2/FMS2 429 INPUT (H)	-26 (22)	C121J1A-50
(B)	IRS2/FMS2 429 INPUT (L)	-27 (22)	C121J1A-51
	SHIELD GND		SHIELD GND
(B)	429 OUTPUT #3 (H)	-29 (22)	APPX G
(B)	429 OUTPUT #3 (L)	-30 (22)	APPX G
	SHIELD GND		SHIELD GND
(P)	CHASSIS GROUND	-33 (22)	A/C CHASSIS GND
(P)	+28V POWER RETURN	-34 (22)	A/C POWER GND
(P)	+28V DC POWER	-35 (22)	A/C +28V DC POWER
(B)	429 OUTPUT #1 (H)	-38 (22)	121J1A-26
(B)	429 OUTPUT #1 (L)	-39 (22)	121J1A-27
	SHIELD GND		SHIELD GND
(I)	DADC 419/429 SELECT*	149J1-40 ----NC	APPX C

Interconnect Information
Table 501 (cont)

INERTIAL REFERENCE UNIT No. 1

IOB P	Function	Connector Pin	Connects To
(I)	IDENT RES R1	170J1A-A1 ----NC	
(I)	SDI/4	-A7 ----NC	
(I)	IDENT RES R2	-B1 ----NC	
(I)	IDENT RES R3	-C1 ----NC	
(I)	IDENT RES COM	-C2 ----NC	
(I)	IDENT RES R4	-D1 ----NC	
(B)	GPS1 429 INPUT #1 (H)	-E2 ----NC	
(B)	GPS1 429 INPUT #1 (L)	-E3 ----NC	
(B)	GPS2 429 INPUT #2 (H)	-E4 ----NC	
(B)	GPS2 429 INPUT #2 (L)	-E5 ----NC	
(O)	CTVAL 1	-E6 ----NC	
(O)	CTVAL 2	-E7 ----NC	
(O)	AC FAIL LOGIC OUT	-E10 ----NC	
(I)	AC TO BATT XFER	-E11 ----NC	
(I)	ASCB FORMAT SEL	-E13 (22)-----------------	170J1B-A1
(I)	37 WORD FORMAT	-E14 (22)-----------------	170J1B-A1
(I)	GPS1 TIME MARK (1Hz) #1 (H)	-F4 ----NC	
(I)	GPS1 TIME MARK (1Hz) #1 (L)	-F5 ----NC	
(I)	GPS2 TIME MARK (1Hz) #2 (H)	-G2 ----NC	
(I)	GPS2 TIME MARK (1Hz) #2 (L)	-G3 ----NC	
(O)	CHARGER INHIBIT (28V/0)	170J1A-G9 (22)------------------	IRU BATTERY

Interconnect Information
Table 501 (cont)

INERTIAL REFERENCE UNIT No. 1

IOB P	Function	Connector Pin	Connects To
(B)	SYS ASCB PRI (H)	170J1A-H1 (22)	REF SECT 3.3
(B)	SYS ASCB PRI (L)	-H2 (22)	
(B)	RS 232 DATA XMTR	-H3 (22)	TEST CONNECTOR
(B)	RS 232 DATA RCVR	-H4 (22)	TEST CONNECTOR
(B)	RS 232 COMMON	-H7 (22)	TEST CONNECTOR
		SHIELD GND	SHIELD GND
(B)	RS 232 DTR	-H5 ----NC	
(B)	RS 232 CTS	-H6 ----NC	
(I)	MEM ACCESS WR ENA (GND/O)	-H10 (22)	FLT TEST ONLY
(I)	SDI/3	-J9 ----NC	
(B)	SYS ASCB SEC (H)	-K1 (22)	REF SECT 3.3
(B)	SYS ASCB SEC (L)	-K2 (22)	
(I)	BITE WRITE INHIBIT (GND/O)	170J1A-K6 ----NC	

Interconnect Information
Table 501 (cont)

INERTIAL REFERENCE UNIT No. 1

IOB P	Function	Connector Pin	Connects To
(O)	LOGIC GROUND	170J1B-A1 (22)	172J1-U
(I)	IRU ORIENT/1	-A2 (22)	170J1B-A1
(I)	IRU ORIENT/2	-A3 (22)	170J1B-A1
(I)	SDI/2	-A7 (22)	170J1B-A1
(B)	FMS1 429 INPUT (H)	-A8 (22)	121J1A-62
(B)	GEN BUS PRIMARY (L)	-A9 (22)	121J1A-49
		SHIELD GND	SHIELD GND
(I)	REMOTE TEST	-A10 (22)	172J1-W
(B)	ISDU/NDU 429 INPUT (H)	-A13 (22)	171J1-24 (OPT) 198J1-24 (OPT)
(B)	ISDU/NDU 429 INPUT (L)	-A14 (22)	171J1-25 (OPT) 198J1-25 (OPT)
		SHIELD GND	SHIELD GND
(O)	BATT FAIL ANNUN (GND/O)	-A15 (22)	DIM & TEST PANEL
(B)	FMS2 429 INPUT (H)	-C5 (22)	C121J1B-3
(B)	GEN BUS SECONDARY (L)	-C6 (22)	C121J1B-15
		SHIELD GND	SHIELD GND
(O)	FAULT ANNUN (GND/O)	-D2 (22)	DIM & TEST PANEL
(O)	ATT ANNUN (GND/O)	-D3 ----NC	
(O)	NO AIR ANNUN (GND/O)	-E1 ----NC	
(O)	ON DC ANNUN (GND/O)	-E2 ----NC	
(O)	NAV READY ANNUN (GND/O)	-E3 ----NC	
(B)	ARINC 429 OUT #2 (H)	-E5 (22)	65J1A-48
(B)	ARINC 429 OUT #2 (L)	-E6 (22)	65J1A-49
		SHIELD GND	SHIELD GND
(I)	MODE DISCRETE/1 (GND/O)	-F1 (22)	172J1-e
(I)	MODE DISCRETE/2 (GND/O)	-F2 (22)	172J1-f
(I)	ALIGN ANNUN (GND/O)	-F3 (22)	DIM & TEST PANEL
(B)	ARINC 429 OUT #4 (H)	-F14 (22)	E65J1A-48
(B)	ARINC 429 OUT #4 (L)	170J1B-F15 (22)	E65J1A-49
		SHIELD GND	SHIELD GND

Interconnect Information
Table 501 (cont)

INERTIAL REFERENCE UNIT No. 1

IOB P	Function	Connector Pin	Connects To
(O)	IRU VALID	170J1B-G1 ----NC	
(B)	ARINC 429 OUT #1 (H)	-G7 (22)	171J1-26 (OPT) 198J1-26 (OPT)
(B)	ARINC 429 OUT #1 (L)	-G8 (22)	171J1-27 (OPT) 198J1-27 (OPT)
		SHIELD GND	SHIELD GND
(B)	ARINC 429 OUT #5 (H)	-G14 (22)	DDRMI #1
(B)	ARINC 429 OUT #5 (L)	-G15 (22)	DDRMI #1
		SHIELD GND	SHIELD GND
(B)	ARINC 429 OUT #6 (H)	-H14 (22)	134J1B-79 C134J1B-79
(B)	ARINC 429 OUT #6 (L)	-H15 (22)	134J1B-80 C134J1B-80
		SHIELD GND	SHIELD GND
(I)	DADC 429/575 SEL (GND/O)	-J6 (22)	170J1B-A1
(I)	SDI/1 (GND/O)	-J9 ----NC	
(B)	DADC 429 INPUT (H)	-J10 (22)	C9J1B-30
(B)	SECONDARY DATA BUS (L)	-J11 (22)	C9J1B-31
		SHIELD GND	SHIELD GND
(O)	ON BATT ANNUN (GND/O)	-J15 (22)	DIM & TEST PANEL
(B)	DADC 429 INPUT (H)	-K4 (22)	9J1B-30
(B)	PRIMARY DATA BUS (L)	-K5 (22)	9J1B-31
		SHIELD GND	SHIELD GND
(B)	ARINC 429 OUT #3 (H)	-K12 (22)	C65J1A-48
(B)	ARINC 429 OUT #3 (L)	170J1B-K13 (22)	C65J1A-49
		SHIELD GND	SHIELD GND

Interconnect Information
Table 501 (cont)

INERTIAL REFERENCE UNIT No. 1

IOB P	Function	Connector Pin		Connects To
(P)	115V AC, 400Hz, PWR	170J1C-1	(20)	A/C AC PWR
(P)	+24V DC BATTERY INPUT	-2	(16)	IRU BATT J1B-8
(P)	+28V DC ESSENTIAL INPUT	-4	(20)	A/C DC PWR
(P)	115V AC, 400Hz RETURN	-5	(20)	A/C AC RTN
(P)	+28V DC ISDU/NDU PWR	-6	(20)	172J1-M 171J1-3 (OPT) 198J1-3 (OPT)
(P)	+28V DC INPUT	-7	(16)	A/C DC PWR
(P)	28V DC/BATT RETURN	-8	(16)	A/C DC RTN
(P)	ANNUNCIATOR PWR OUT	-9	(20)	172J1-L
(P)	ANNUNCIATOR PWR IN	-10	(16)	A/C DC PWR
(I)	CHASSIS GND	170J1C-11	(16)	CHASSIS GND

Interconnect Information
Table 501 (cont)

INERTIAL SYSTEM DISPLAY UNIT (OPTIONAL)

IOB P	Function	Connector Pin	Connects To
(P)	5V PNL LIGHT (H)	171J1-1 (20)	A/C WIRING
(P)	5V PNL LIGHT (L)	-2 (20)	A/C WIRING
(P)	+28V DC ISDU PWR	-3 (20)	172J1-M, 170J1C-6
(P)	+28V DC PWR RTN	-4 (20)	GND AT CB PANEL
(I)	CLR/ENT DIMMING	-7 (22)	APPX C
(P)	CHASSIS GND	-8 (20)	CHASSIS GND
(I)	DATA DISPLAY TEST	-11 (22)	APPX C
(B)	ISDU OUTPUT (H)	-24 (22)	170J1B-A13
(B)	ARINC 429 (L)	-25 (22)	170J1B-A14
		SHIELD GND	SHIELD GND
(B)	ARINC 429 INPUT (H)	-26 (22)	170J1B-G7
(B)	ARINC 429 INPUT (L)	171J1-27 (22)	170J1B-G8
		SHIELD GND	SHIELD GND

Interconnect Information
Table 501 (cont)

INERTIAL SYSTEM DISPLAY UNIT (OPTIONAL)

IOB P	Function	Connector Pin		Connects To
(P)	5V PNL LIGHT (H)	171J2-1	----NC	
(P)	5V PNL LIGHT (L)	-2	----NC	
(P)	+28V DC ISDU PWR	-3	(20)-------------------	172J2-M, E170J1C-6
(P)	+28V DC PWR RTN	-4	(20)-------------------	GND AT CB PANEL
(I)	CLR/ENT DIMMING	-7	----NC	
(P)	CHASSIS GND	-8	(20)-------------------	CHASSIS GND
(I)	DATA DISPLAY TEST	-11	----NC	
(B)	ISDU OUTPUT (H)	-24	(22)---------------	E170J1B-A13
(B)	ARINC 429 (L)	-25	(22)---------------	E170J1B-A14
		SHIELD GND	------------	SHIELD GND
(B)	ARINC 429 INPUT (H)	-26	(22)---------------	E170J1B-G7
(B)	ARINC 429 INPUT (L)	171J2-27	(22)---------------	E170J1B-G8
		SHIELD GND	------------	SHIELD GND

Interconnect Information
Table 501 (cont)

INERTIAL SYSTEM DISPLAY UNIT (OPTIONAL)

IOB P	Function	Connector Pin		Connects To
(P)	5V PNL LIGHT (H)	171J3-1	----NC	
(P)	5V PNL LIGHT (L)	-2	----NC	
(P)	+28V DC ISDU PWR	-3	(20)-------------------	172J3-M, C170J1C-6
(P)	+28V DC PWR RTN	-4	(20)-------------------	GND AT CB PANEL
(I)	CLR/ENT DIMMING	-7	----NC	
(P)	CHASSIS GND	-8	(20)-------------------	CHASSIS GND
(I)	DATA DISPLAY TEST	-11	----NC	
(B)	ISDU OUTPUT (H)	-24	(22)-------------------	C170J1B-A13
(B)	ARINC 429 (L)	-25	(22)-------------------	C170J1B-A14
	SHIELD GND		-------------------	SHIELD GND
(B)	ARINC 429 INPUT (H)	-26	(22)-------------------	C170J1B-G7
(B)	ARINC 429 INPUT (L)	171J3-27	(22)-------------------	C170J1B-G8
	SHIELD GND		-------------------	SHIELD GND

Interconnect Information
Table 501 (cont)

MODE SELECT UNIT

IOB P	Function	Connector Pin	Connects To
(I)	CHASSIS GND	172J1-A (20)-------------------	CHASSIS GND
(P)	ANNUNCIATOR PWR INPUT	-L (20)-------------------	170J1C-9
(P)	+28V DC PWR	-M (20)-------------------	170J1C-6 171J1-3 (OPT) 198J1-3 (OPT)
(O)	IRU BLOWER CONTROL (28V/O)	-N (20)-------------------	BLOWER CONTROL RELAY
(I)	FAULT ANNUN (GND/O)	-P (22)-------------------	DIM & TEST PANEL
(P)	0-5 V PANEL LIGHTING (H)	-S (20)-------------------	A/C WIRING
(P)	0-5 V PANEL LIGHTING (L)	-T (20)-------------------	A/C WIRING
(I)	LOGIC GND	-U (22)-------------------	170J1B-A1
(I)	28V DC PWR RET	-V (20)-------------------	28V DC RTN
(O)	TEST SWITCH (GND/O)	-W (22)-------------------	170J1B-A10
(I)	BATT FAIL ANNUN (GND/O)	-Z (22)-------------------	DIM & TEST PANEL
(I)	ALIGN ANNUN (GND/O)	-a (22)-------------------	DIM & TEST PANEL
(O)	MODE SELECT 1 (GND/O)	-e (22)-------------------	170J1B-F1
(O)	MODE SELECT 2 (GND/O)	-f (22)-------------------	170J1B-F2
(I)	ON BATT ANNUN (GND/O)	-g (22)-------------------	DIM & TEST PANEL
(I)	ANNUNCIATOR TEST	172J1-h ----NC	

Interconnect Information
Table 501 (cont)

MODE SELECT UNIT

IOB P	Function	Connector Pin	Connects To
(I)	CHASSIS GND	172J2-A (20)--------------------	CHASSIS GND
(P)	ANNUNCIATOR PWR INPUT	-L (20)--------------------	E170J1C-9
(P)	+28V DC PWR	-M (20)--------------------	E170J1C-6 171J2-3 (OPT) 198J2-3 (OPT)
(O)	IRU BLOWER CONTROL (28V/0)	-N (20)--------------------	BLOWER CONTROL RELAY
(I)	FAULT ANNUN (GND/O)	-P (22)--------------------	DIM & TEST PANEL
(P)	0-5 V PANEL LIGHTING (H)	-S ----NC	
(P)	0-5 V PANEL LIGHTING (L)	-T ----NC	
(I)	LOGIC GND	-U (22)--------------------	E170J1B-A1
(I)	28V DC PWR RET	-V (20)--------------------	28V DC RTN
(O)	TEST SWITCH (GND/O)	-W (22)--------------------	E170J1B-A10
(I)	BATT FAIL ANNUN (GND/O)	-Z (22)--------------------	DIM & TEST PANEL
(I)	ALIGN ANNUN (GND/O)	-a (22)--------------------	DIM & TEST PANEL
(O)	MODE SELECT 1 (GND/O)	-e (22)--------------------	E170J1B-F1
(O)	MODE SELECT 2 (GND/O)	-f (22)--------------------	E170J1B-F2
(I)	ON BATT ANNUN (GND/O)	-g (22)--------------------	DIM & TEST PANEL
(I)	ANNUNCIATOR TEST	172J2-h ----NC	

Interconnect Information
Table 501 (cont)

MODE SELECT UNIT

IOB P	Function	Connector Pin	Connects To
(I)	CHASSIS GND	172J3-A (20)--------------------	CHASSIS GND
(P)	ANNUNCIATOR PWR INPUT	-L (20)--------------------	C170J1C-9
(P)	+28V DC PWR	-M (20)--------------------	C170J1C-6 171J3-3 (OPT) 198J3-3 (OPT)
(O)	IRU BLOWER CONTROL (28V/O)	-N (20)--------------------	BLOWER CONTROL RELAY
(I)	FAULT ANNUN (GND/O)	-P (22)--------------------	DIM & TEST PANEL
(P)	0-5 V PANEL LIGHTING (H)	-S ----NC	
(P)	0-5 V PANEL LIGHTING (L)	-T ----NC	
(I)	LOGIC GND	-U (22)--------------------	C170J1B-A1
(I)	28V DC PWR RET	-V (20)--------------------	28V DC RTN
(O)	TEST SWITCH (GND/O)	-W (22)--------------------	C170J1B-A10
(I)	BATT FAIL ANNUN (GND/O)	-Z (22)--------------------	DIM & TEST PANEL
(I)	ALIGN ANNUN (GND/O)	-a (22)--------------------	DIM & TEST PANEL
(O)	MODE SELECT 1 (GND/O)	-e (22)--------------------	C170J1B-F1
(O)	MODE SELECT 2 (GND/O)	-f (22)--------------------	C170J1B-F2
(I)	ON BATT ANNUN (GND/O)	-g (22)--------------------	DIM & TEST PANEL
(I)	ANNUNCIATOR TEST	172J3-h ----NC	

Interconnect Information
Table 501 (cont)

NAVIGATIONAL DISPLAY UNIT (OPTIONAL)

IOB P	Function	Connector Pin	Connects To
(P)	5V PNL LIGHT (H)	198J1-1 (20)	A/C WIRING
(P)	5V PNL LIGHT (L)	-2 (20)	A/C WIRING
(P)	+28V DC NDU PWR	-3 (20)	172J1-M, 170J1C-6
(P)	+28V DC PWR RTN	-4 (20)	GND AT CB PANEL
(I)	BRT/DIM	-7 (22)	APPX C
(P)	CHASSIS GND	-8 (20)	CHASSIS GND
(I)	DATA DISPLAY TEST	-11 (22)	APPX C
(B)	NDU OUTPUT (H)	-24 (22)	170J1B-A13, 65J1B-13
(B)	ARINC 429 (L)	-25 (22)	170J1B-A14, 65J1B-14
		SHIELD GND	SHIELD GND
(B)	ARINC 429 INPUT (H)	-26 (22)	170J1B-G7
(B)	ARINC 429 INPUT (L)	198J1-27 (22)	170J1B-G8
		SHIELD GND	SHIELD GND

Interconnect Information
Table 501 (cont)

NAVIGATIONAL DISPLAY UNIT (OPTIONAL)

IOB P	Function	Connector Pin		Connects To
(P)	5V PNL LIGHT (H)	198J2-1	----NC	
(P)	5V PNL LIGHT (L)	-2	----NC	
(P)	+28V DC NDU PWR	-3	(20)-------------------	I72J2-M, E170J1C-6
(P)	+28V DC PWR RTN	-4	(20)-------------------	GND AT CB PANEL
(I)	BRT/DIM	-7	----NC	
(P)	CHASSIS GND	-8	(20)-------------------	CHASSIS GND
(I)	DATA DISPLAY TEST	-11	----NC	
(B)	NDU OUTPUT (H)	-24	(22)-------------------	E170J1B-A13 E65J1B-13
(B)	ARINC 429 (L)	-25	(22)-------------------	E170J1B-A14 E65J1B-14
		SHIELD GND	-------------------	SHIELD GND
(B)	ARINC 429 INPUT (H)	-26	(22)-------------------	E170J1B-G7
(B)	ARINC 429 INPUT (L)	198J2-27	(22)-------------------	E170J1B-G8
		SHIELD GND	-------------------	SHIELD GND

Interconnect Information
Table 501 (cont)

NAVIGATIONAL DISPLAY UNIT (OPTIONAL)

IOB P	Function	Connector Pin		Connects To
(P)	5V PNL LIGHT (H)	198J3-1	----NC	
(P)	5V PNL LIGHT (L)	-2	----NC	
(P)	+28V DC NDU PWR	-3	(20)-------------------	172J3-M, C170J1C-6
(P)	+28V DC PWR RTN	-4	(20)-------------------	GND AT CB PANEL
(I)	BRT/DIM	-7	----NC	
(P)	CHASSIS GND	-8	(20)-------------------	CHASSIS GND
(I)	DATA DISPLAY TEST	-11	----NC	
(B)	NDU OUTPUT (H)	-24	(22)-------------------	C170J1B-A13 C65J1B-13
(B)	ARINC 429 (L)	-25	(22)-------------------	C170J1B-A14 C65J1B-14
	SHIELD GND		-------------------	SHIELD GND
(B)	ARINC 429 INPUT (H)	-26	(22)-------------------	C170J1B-G7
(B)	ARINC 429 INPUT (L)	198J3-27	(22)-------------------	C170J1B-G8
	SHIELD GND		-------------------	SHIELD GND

Interconnect Information
Table 501 (cont)

Digital Air Data Computer No. 2

IOB P	Function	Connector Pin	Connects To
(P)	28 V DC HI	C9J1A-1 (NOTE 3)	A/C 28 V DC PWR
(P)	28 V DC HI	-2 (NOTE 3)	A/C 28 V DC PWR
(P)	28 V DC RETURN	-3 (NOTE 3)	A/C PWR GND
(P)	28 V DC RETURN	-4 (NOTE 3)	A/C PWR GND
(P)	SIGNAL GROUND	-5 (22)	A/C SIG GND
(P)	SIGNAL GROUND	-6 (22)	A/C SIG GND
(P)	DC GROUND	-7 (22)	A/C GND
(P)	DC GROUND	-8 (22)	A/C GND
(P)	CHASSIS GROUND	-9 (22)	CHASSIS GND
(P)	CHASSIS GROUND	-10 (22)	CHASSIS GND
(B)	SYS ASCB PRIMARY BUS (H)	-11 (22)	SEE SECT 3.3
(B)	SYS ASCB PRIMARY BUS (L)	-12 (22)	
	SPARE	-13	
	SPARE	-14	
	SPARE	-15	
	SPARE	-16	
	SPARE	-17	
	SPARE	-18	
	SPARE	-19	
	SPARE	-20	
	SPARE	-21	
	SPARE	-22	
	SPARE	-23	
	SPARE	-24	
	SPARE	-25	
	SPARE	-26	
	SPARE	-27	
	SPARE	-28	
	SPARE	-29	
	SPARE	-30	
	SPARE	-31	
	SPARE	-32	
	SPARE	-33	
(O)	ALT VALID (28 V DC/OPEN)	-34 (22)	STALL WARN COMPUTER #2, REF APPX C
(I)	BARO POT (H)	-35 (22)	C115J2-L
(I)	BARO POT (W)	-36 (22)	C115J2-M
(I)	BARO POT (L)	-37 (22)	C115J2-N
(I)	BARO DISABLE*	-38 NC	REF APPX C
(I)	SSEC DISABLE*	C9J1A-39 NC	

Interconnect Information
Table 501 (cont)

Digital Air Data Computer No. 2

IOB P	Function	Connector Pin		Connects To
	SPARE	C9J1A-40		
	SPARE	-41		
	SPARE	-42		
	SPARE	-43		
	SPARE	-44		
	SPARE	-45		
	SPARE	-46		
	SPARE	-47		
	SPARE	-48		
	SPARE	-49		
	SPARE	-50		
	SPARE	-51		
(I)	AIR DATA SELF TEST*	-52	------NC	
	SPARE	-53		
	SPARE	-54		
(I)	FLAP POS #1 (0 DEG*)	-55	(22)-------------------	A/C WIRING APPX C
(I)	FLAP POS #2 (10 DEG*)	-56	(22)-------------------	A/C WIRING APPX C
(I)	FLAP POS #3 (20 DEG*)	-57	(22)-------------------	A/C WIRING APPX C
(I)	FLAP POS #4 (39 DEG*)	-58	(22)-------------------	A/C WIRING APPX C
	SPARE	-59		
	SPARE	-60		
	SPARE	-61		
(I)	CABIN PRESS REF (H)	-62	(22)-------------------	A/C WIRING
(O)	CABIN PRESS RATIO (W)	-63	(22)-------------------	A/C WIRING
(I)	CABIN PRESS REF (L)	-64	(22)-------------------	A/C WIRING
	SPARE	-65		
(O)	CABIN PRESS RATIO VALID (GND/OPEN)	-66	(22)-------------------	A/C WIRING APPX C
	SPARE	-67		
	SPARE	-68		
	SPARE	-69		
	SPARE	-70		
	SPARE	-71		
(I)	TEMPERATURE PROBE (H)	-72	(22)-------------------	A/C WIRING
(I)	TEMPERATURE PROBE (L)	-73	(22)-------------------	A/C WIRING
	SPARE	-74		
	SPARE	-75		
	SPARE	-76		
(O)	ALTITUDE SWITCH	-77	------NC	REF APPX C
(O)	PRESSURE ALT SIG (H)	C9J1A-78	(22)-------------------	STALL WARN COMPUTER #2

Interconnect Information
Table 501 (cont)

Digital Air Data Computer No. 2

IOB P	Function	Connector Pin	Connects To
	SPARE	C9J1A-79	
(0)	ALT SWITCH COMMON	-80 (22)-------------------	A/C WIRING, REF APPX C
(I)	AOA TEST MODE SW COMMON	-81 (22)-------------------	A/C SIG GND
(I)	AOA TEST SW COMMON (SL)	-82 ------NC	
(I)	AOA TEST SW COMMON (15K)	-83 ------NC	
	SPARE	-84	
(0)	OVERSPEED WARNING (28 V DC/OPEN)	-85 (22)-------------------	A/C WIRING, REF APPX C
	SPARE	-86	
	SPARE	-87	
	SPARE	-88	
	SPARE	-89	
	SPARE	-90	
	SPARE	-91	
(0)	AOA TEST MODE SELECT (GND/OPEN)	-92 (22)-------------------	STALL WARN COMPUTER #2
(I)	ALERTER SELECT (OPEN/GND)	-93 (22)-------------------	9J1A-93, 10J2B-88, C10J2B-88
(0)	AOA INDEXER (RED) (GND/OPEN)	-94 (22)-------------------	APPX D
(0)	AOA INDEXER (GREEN) (GND/OPEN)	-95 (22)-------------------	APPX D
(0)	AOA INDEXER (YELLOW) (GND/OPEN)	-96 (22)-------------------	APPX D
(0)	AOA TEST MODE (SL) SELECT (GND/OPEN)	-97 ------NC	
(0)	AOA TEST MODE (15K) SELECT (GND/OPEN)	-98 ------NC	
	SPARE	-99	
(I)	PILOT/COPILOT*	-100 (22)------------------	A/C SIG GND
(I)	AIRCRAFT ID ID0	-101 (22)------------------	A/C GND
(I)	AIRCRAFT ID ID1	-102 ------NC	
(I)	AIRCRAFT ID ID2	-103 ------NC	
(I)	AIRCRAFT ID ID3	-104 (22)------------------	A/C GND
(I)	AIRCRAFT ID ID4	-105 ------NC	
(I)	AIRCRAFT ID ID5	C9J1A-106 (22)------------------	A/C GND

REF APPX C (pins -92 through -96)

REF APPX C (pins -100 through -106)

Interconnect Information
Table 501 (cont)

Digital Air Data Computer No. 2

IOB P	Function	Connector Pin	Connects To
	SPARE	C9J1B-1	
	SPARE	-2	
	SPARE	-3	
	SPARE	-4	
	SPARE	-5	
	SPARE	-6	
	SPARE	-7	
	SPARE	-8	
	SPARE	-9	
	SPARE	-10	
	SPARE	-11	
	SPARE	-12	
(B)	SYS ASCB SECONDARY BUS (H)	-13 (22)	SEE SECT 3.3
(B)	SYS ASCB SECONDARY BUS (L)	-14 (22)	
	SPARE	-15	
	SPARE	-16	
	SPARE	-17	
	SPARE	-18	
	SPARE	-19	
	SPARE	-20	
	SPARE	-21	
	SPARE	-22	
	SPARE	-23	
	SPARE	-24	
	SPARE	-25	
(B)	ARINC 429 OUTPUT #1 (H)	-26 (22)	C65J1B-39
(B)	ARINC 429 OUTPUT #1 (L)	-27 (22)	C65J1B-40
		SHIELD GND	
	SPARE	-28	
	SPARE	-29	
(B)	ARINC 429 OUTPUT #3 (H)	-30 (22)	170J1B-J10, C170J1B-J10
(B)	ARINC 429 OUTPUT #3 (L)	-31 (22)	170J1B-J11, C170J1B-J11
		SHIELD GND	
(B)	ARINC 429 OUTPUT #4 (H)	-32 (22)	A/C WIRING
(B)	ARINC 429 OUTPUT #4 (L)	-33 (22)	A/C WIRING
		SHIELD GND	
	SPARE	-34	
	SPARE	-35	
	SPARE	-36	
	SPARE	-37	
	SPARE	C9J1B-38	

Interconnect Information
Table 501 (cont)

Digital Air Data Computer No. 2

IOB P	Function	Connector Pin		Connects To
	SPARE	C9J1B-39		
	SPARE	-40		
	SPARE	-41		
	SPARE	-42		
	SPARE	-43		
	SPARE	-44		
	SPARE	-45		
	SPARE	-46		
	SPARE	-47		
	SPARE	-48		
(O)	ALT ALERT HORN (28 V/OPEN)	-49	(22)	A/C WIRING, APPX C
	SPARE	-50		
	SPARE	-51		
	SPARE	-52		
(O)	AOA REF (H)	-53	(22)	TO AOA PROBE
(O)	AOA REF (L)	-54	(22)	TO AOA PROBE
	SPARE	-55		
	SPARE	-56		
	SPARE	-57		
	SPARE	-58		
	SPARE	-59		
(O)	AOA SIG (W)	-60	(22)	TO AOA PROBE
	SPARE	-61		
	SPARE	-62		
	SPARE	-63		
	SPARE	-64		
	SPARE	-65		
	SPARE	-66		
	SPARE	-67		
	SPARE	-68		
	SPARE	-69		
(B)	ARINC 429 OUTPUT #2 (H)	-70	(22)	65J1B-39, E65J1B-39 E170J1B-K4, APPX L
(B)	ARINC 429 OUTPUT #2 (L)	-71	(22)	65J1B-40, E65J1B-40, E170J1B-K5 APPX L
	SHIELD GND			
	SPARE	-72		
	SPARE	C9J1B-73		

Interconnect Information
Table 501 (cont)

Digital Air Data Computer No. 2

IOB P	Function	Connector Pin	Connects To
	SPARE	C9J1B-74	
(O)	ALT ALERT ANNUN (GND/OPEN)	-75 (22)	A/C WIRING REF APPX C
(O)	ALT ALERT HORN (GND/OPEN)	-76 (22)	A/C WIRING REF APPX C
	SPARE	-77	
	SPARE	-78	
	SPARE	-79	
	RESERVED	-80	
	RESERVED	-81	
	RESERVED	-82	
	RESERVED	-83	
	RESERVED	-84	
	RESERVED	-85	
	RESERVED	-86	
	RESERVED	-87	
	RESERVED	-88	
	RESERVED	-89	
	RESERVED	-90	
	SPARE	-91	
	SPARE	-92	
	SPARE	-93	
	RESERVED	-94	
	RESERVED	-95	
	SPARE	-96	
	SPARE	-97	
	SPARE	-98	
	RESERVED	-99	
	RESERVED	-100	
	RESERVED	-101	
	RESERVED	-102	
(I)	ALT SELECT TACH (H)	-103 (22)	11J2-30
(I)	ALT SELECT TACH (L)	-104 (22)	11J2-31
	SPARE	-105	
	SPARE	C9J1B-106	

Interconnect Information
Table 501 (cont)

Flight Guidance Computer No. 2

IOB P	Function	Connector Pin	Connects To
(P)	28 V DC PWR (STAB AUG SERVO PWR)	C10J1A-1 (NOTE 3)	A/C 28 V DC PWR
(P)	28 V DC PWR RTN (STAB AUG SERVO PWR RTN)	-2 (NOTE 3)	A/C 28 V DC RTN
(P)	CHASSIS GND	-3 (22)	A/C CHASSIS GND
(P)	28 V DC (AUTO PILOT SERVO PWR)	-4 (NOTE 3)	A/C 28 V DC PWR
(P)	28 V DC (AUTO PILOT SERVO PWR RTN)	-5 (NOTE 3)	A/C 28 V DC PWR RTN
(P)	28 V DC COMPUTER POWER	-6 (NOTE 3)	A/C 28 V DC PWR
(P)	28 V DC COMPUTER POWER RTN	-7 (NOTE 3)	A/C 28 V DC PWR RTN
(P)	28 V DC COMPUTER POWER	-8 (NOTE 3)	A/C 28 V DC PWR
(P)	28 V DC COMPUTER POWER RTN	-9 (NOTE 3)	A/C 28 V DC PWR RTN
	SPARE	-10	
	SPARE	-11	
	SPARE	-12	
	SPARE	-13	
	SPARE	-14	
	SPARE	-15	
	SPARE	-16	
	SPARE	-17	
(I)	HDG SEL (H)	-18 (22)	11J2-26
	(L)	-19 (22)	11J2-27
	SPARE	-20	
(O)	AP BRAKE (28 V DC/OPEN)	-21 (22)	12P1-21, 13P1-21
(O)	TRIM BRAKE (28 V DC/OPEN)	-22 (22)	29J1-21
	SPARE	-23	
	SPARE	-24	
	RESERVED	-25	
	SPARE	-26	
	SPARE	-27	
(I)	STICK SHAKER ACTIVE (28V/OPEN)	-28 (22)	A/C WIRING REF APPENDIX C
	SPARE	-29	
	SPARE	-30	
	SPARE	-31	
	SPARE	C10J1A-32	

Interconnect Information
Table 501 (cont)

Flight Guidance Computer No. 2

IOB P	Function	Connector Pin		Connects To
(I)	TRIM DN CMD	C10J1A-33	(22)-------------------	APPENDIX D
	SPARE	-34		
	SPARE	-35		
	SPARE	-36		
(O)	PRIORITY STATUS #2 (28V/OPEN)	-37	(22)-------------------	11J2-70,115J1-b, C115J1-b, APPX C
	SPARE	-38		
	SPARE	-39		
(I)	Y/D REMOTE ENGAGE/ DISENGAGE (OPEN/GND TOGGLE)	-40	(22)-------------------	APPENDIX D, REF APPENDIX C
(I)	TRIM REMOTE ENGAGE/ DISENGAGE (OPEN/GND TOGGLE)	-41	(22)-------------------	APPENDIX D, REF APPENDIX C
	SPARE	-42		
	SPARE	-43		
	SPARE	-44		
	SPARE	-45		
	SPARE	-46		
(I)	TRIM UP CMD	-47	(22)-------------------	APPENDIX D
	SPARE	-48		
	SPARE	-49		
	SPARE	-50		
	SPARE	-51		
	SPARE	-52		
	SPARE	-53		
	SPARE	-54		
	SPARE	-55		
	SPARE	-56		
	SPARE	-57		
(O)	YAW DAMP ENGAGE (28V/OPEN)	-58	(22)-------------------	14P1-A,10J1A-58 134J1B-26, C134J1B-26, APPENDIX D
(O)	RUDDER ACTUATOR EXEC (H)	-59	(22)-------------------	14J1-S
(O)	RUDDER ACTUATOR EXEC (L)	-60	(22)-------------------	14J1-R
		SHIELD GND	-----	
(I)	RUD LVDT FEEDBACK (H)	-61	(22)-------------------	14J1-T
(I)	RUD LVDT FEEDBACK (L)	10J1A-62	(22)-------------------	14J1-U
		SHIELD GND	-----	

Interconnect Information
Table 501 (cont)

Flight Guidance Computer No. 2

IOB P	Function	Connector Pin	Connects To
(O)	RUD ACTUATOR DRIVE HI	C10J1A-63 (22)	14J1-H
(O)	RUD ACTUATOR DRIVE LO	-64 (22)	14J1-G
		SHIELD GND	
	SPARE	-65	
	SPARE	-66	
	SPARE	C10J1A-67	

Interconnect Information
Table 501 (cont)

Flight Guidance Computer No. 2

IOB P	Function	Connector Pin	Connects To
(B)	SYS ASCB PRIMARY BUS (H)	C10J1B-1 (22)	REF SECTION 3.3
(B)	SYS ASCB PRIMARY BUS (L)	-2 (22)	REF SECTION 3.3
	SPARE	-3	
	RESERVED	-4	
	RESERVED	-5	
	SPARE	-6	
(I)	SPEED CMD (H)	-7 (22)	11J2-24
(I)	(L)	-8 (22)	11J2-25
	SPARE	-9	
	SPARE	-10	
(I)	V/S CMD (H)	-11 (22)	11J2-28
(I)	(L)	-12 (22)	11J2-29
	SPARE	-13	
	SPARE	-14	
	SPARE	-15	
(I)	PITCH UP TRIM LIMIT	-16 (22)	29AJ2-6
	SPARE	-17	
	SPARE	-18	
(I)	PITCH DN TRIM LIMIT	-19 (22)	29AJ2-5
	SPARE	-20	
	SPARE	-21	
	SPARE	-22	
	SPARE	-23	
	SPARE	-24	
	SPARE	-25	
	SPARE	-26	
	SPARE	-27	
	SPARE	-28	
	SPARE	-29	
	SPARE	-30	
	SPARE	-31	
	SPARE	-32	
	SPARE	-33	
	SPARE	-34	
	SPARE	C10J1B-35	

Interconnect Information
Table 501 (cont)

Flight Guidance Computer No. 2

IOB P	Function	Connector Pin	Connects To
(O)	A-PROC DAC #3	C10J1B-36 (22)	2
(O)	A-PROC DAC #4	-37 (22)	
(O)	A-PROC DAC #5	-38 (22)	
(O)	A-PROC DAC #6	-39 (22)	
	SPARE	-40	
	SPARE	-41	
	SPARE	-42	
	SPARE	-43	
(I)	26 V AC REF (H)	-44 (22)	29J2-3, 26 V AC PWR
(I)	26 V AC REF (L)	-45 (22)	PWR GND
(O)	B-PROC DAC #3	-46 (22)	2
(O)	B-PROC DAC #4	-47 (22)	
	SPARE	-48	
	SPARE	-49	
	SPARE	-50	
	SPARE	-51	
(O)	B-PROC DAC #5	-52 (22)	2
	SPARE	-53	
	SPARE	-54	
	SPARE	-55	
	SPARE	-56	
(O)	B-PROC DAC #6	-57 (22)	2
	SPARE	-58	
	SPARE	-59	
	SPARE	-60	
	SPARE	-61	
	SPARE	-62	
	SPARE	-63	
(I)	FLIGHT TEST INPUT #1 (H)	-64 (22)	2
(I)	FLIGHT TEST INPUT #1 (L)	-65 (22)	
	SPARE	-66	
	SPARE	-67	
(I)	ELEVATOR TACH FEEDBACK (H)	-68 (22)	13J2-17
(I)	ELEVATOR TACH FEEDBACK (L)	-69 (22)	13J2-16
(I)	AILERON TACH FEEDBACK (H)	-70 (22)	12J2-17
(I)	AILERON TACH FEEDBACK (L)	-71 (22)	12J2-16
(I)	TRIM TACH FEEDBACK (H)	-72 (22)	29J2-16
(I)	TRIM TACH FEEDBACK (L)	-73 (22)	29J2-17
(I)	FLIGHT TEST INPUT #2 (H)	-74 (22)	2
(I)	FLIGHT TEST INPUT #2 (L)	-75 (22)	

Interconnect Information
Table 501 (cont)

Flight Guidance Computer No. 2

IOB P	Function	Connector Pin		Connects To	
(I)		ID1	C10J1B-76------NC		REF APPX C
(I)		ID2	-77------NC		
(I)	A/C	ID3	-78------NC		
(I)	IDENTIFICATION	ID4	-79 (22)-------------------	SIG GND	
(I)		ID5	-80------NC		
		ID6	-81 (22)-------------------	SIG GND	
	SPARE		-82		
	SPARE		-83		
	SPARE		-84		
(I)	CS TRIM DN CMD		-85 (22)-------------------	APPENDIX D	
(I)	CS TRIM UP CMD		-86 (22)-------------------	APPENDIX D	
	RESERVED		-87------NC		
(I)	RESERVED		-88------NC		
(I)	RESERVED		-89------NC		
	SPARE		-90		
	SPARE		-91		
	SPARE		-92		
	SPARE		-93		
	SPARE		-94		

INSTALLATION CRITICAL PINS 95 AND 96 ARE CRITICAL, SEE PAGE 3-13.

IOB P	Function		Connector Pin	Connects To	
(I)	MISCOMPARE #1*		-95 (22)-------------------	10J1B-95, E170J1A-E6	REF APPX C
(I)	MISCOMPARE #2*		-96 (22)-------------------	10J1B-96, E170J1A-E7	
	SPARE		-97		
	SPARE		-98		
(I)	RAD ALT FORMAT	ID1	-99 -----NC		
(I)	RAD ALT FORMAT	ID0	-100 ------NC		
	SPARE		-101		
(I)	PILOT/COPILOT I.D. #1		-102 ------NC		
(I)	PILOT/COPILOT I.D. #2		-103 (22)-------------------	A/C GND	
(I)	END ITEM TEST		-104------NC		
	SPARE		-105		
(O)	PROGRAM PIN GND	1	C10J1B-106		

Interconnect Information
Table 501 (cont)

Flight Guidance Computer No. 2

IOB P	Function	Connector Pin		Connects To
	SPARE	C10J2A-1		
	SPARE	-2		
(P)	SIGNAL GND	-3	(22)	A/C SIGNAL GND
	SPARE	-4		
	SPARE	-5		
	SPARE	-6		
	SPARE	-7		
	SPARE	-8		
	SPARE	-9		
	SPARE	-10		
	SPARE	-11		
	SPARE	-12		
	SPARE	-13		
	SPARE	-14		
	SPARE	-15		
	SPARE	-16		
	SPARE	-17		
	SPARE	-18		
	SPARE	-19		
	SPARE	-20		
	SPARE	-21		
	SPARE	-22		
	SPARE	-23		
	SPARE	-24		
	SPARE	-25		
	SPARE	-26		
	SPARE	-27		
	SPARE	-28		
	SPARE	-29		
	SPARE	-30		
	SPARE	-31		
	SPARE	-32		
	SPARE	-33		
	SPARE	-34		
	SPARE	-35		
(I)	CROSS RADIO ALTITUDE (H)	-36	(22)	20J1-W, 10J2B-26, 136J1A-50
(I)	CROSS RADIO ALTITUDE (L)	-37	(22)	20J1-N, 10J2B-27, 136J1A-51, 20J1-E
(I)	CROSS RADIO ALTITUDE VALID	C10J2A-38	(22)	20J1-Y, 10J2B-28, 136J1B-19

Interconnect Information
Table 501 (cont)

Flight Guidance Computer No. 2

IOB P	Function	Connector Pin		Connects To
	SPARE	C10J2A-39		
	SPARE	-40		
(I)	A/P CROSS PWR SENSE IN	-41	(22)	10J2A-42
(O)	A/P CROSS PWR SENSE OUT	-42	(22)	10J2A-41
(I)	STAB AUG CROSS PWR SENSE IN	-43	(22)	10J2A-44
(O)	STAB AUG CROSS PWR SENSE OUT	-44	(22)	10J2A-43
(I)	CROSS SERVO PWR SENSE IN	-45	(22)	10J2A-46
(O)	CROSS SERVO PWR SENSE OUT	-46	(22)	10J2A-45
(I)	CROSS SERVO'S OFF IN	-47	(22)	10J2A-48
(O)	CROSS SERVO'S OFF OUT	-48	(22)	10J2A-47
(I)	CROSS CHANNEL SYNC IN	-49	(22)	10J2A-50
(O)	CROSS CHANNEL SYNC OUT	-50	(22)	10J2A-49
(O)	A-PROC DAC #1	-51	(22)	△2
(O)	A-PROC DAC #2	-52	(22)	
(O)	B-PROC DAC #1	-53	(22)	
(O)	B-PROC DAC #2	-54	(22)	
(O)	ELEVATOR SERVO DRIVE (H)	-55	(20)	13P2-1
(O)	ELEVATOR SERVO DRIVE (L)	-56	(20)	13P2-2
		SHIELD GND		
(O)	AILERON SERVO DRIVE (H)	-57	(20)	12P2-1
(O)	AILERON SERVO DRIVE (L)	-58	(20)	12P2-2
		SHIELD GND		
(O)	TRIM DRIVE UP	-59	(20)	29J2-2
(O)	(ELEV) DN	-60	(20)	29J2-1
		SHIELD GND		
(O)	AILERON AND ELEVATOR CLUTCH DRIVE	-61	(22)	APPENDIX D
	SPARE	-62		
(O)	TRIM CLUTCH DRIVE	-63	(22)	APPENDIX D
	SPARE	-64		
(O)	5 V DC GP PWR #2	-65	(22)	11J2-12
(O)	5 V DC GP PWR RTN #2	-66	(22)	11J2-13
(O)	DAC COMMON	C10J2A-67	(22)	△2

Interconnect Information
Table 501 (cont)

Flight Guidance Computer No. 2

IOB P	Function	Connector Pin	Connects To
(B)	SYS ASCB SECONDARY BUS (H)	C10J2B-1 (22)	REF SECTION 3.3
(B)	SYS ASCB SECONDARY BUS (L)	-2 (22)	REF SECTION 3.3
	SPARE	-3	
	RESERVED	-4	
	RESERVED	-5	
	SPARE	-6	
	SPARE	-7	
	SPARE	-8	
	SPARE	-9	
	SPARE	-10	
	SPARE	-11	
	SPARE	-12	
	SPARE	-13	
	SPARE	-14	
	SPARE	-15	
	SPARE	-16	
	SPARE	-17	
	SPARE	-18	
	SPARE	-19	
	SPARE	-20	
	SPARE	-21	
	SPARE	-22	
	SPARE	-23	
	SPARE	-24	
	SPARE	-25	
(I)	RADIO ALTITUDE (H)	-26 (22)	10J2A-36, C20J1-W, 137J1A-50
(I)	RADIO ALTITUDE (L)	-27 (22)	10J2A-37, C20J1-N, 137J1A-51, C20J1-E
(I)	RADIO ALTITUDE VALID	-28 (22)	C20J1-Y, 10J2A-38, 137J1B-19
(I)	B FLIGHT TEST (H) INPUT #1	-29 (22)	2
(I)	B FLIGHT TEST (L) INPUT #1	C10J2B-30 (22)	2

Interconnect Information
Table 501 (cont)

Flight Guidance Computer No. 2

IOB P	Function		Connector Pin		Connects To
(I)	B FLIGHT TEST INPUT #2	(H)	C10J2B-31	(22)	2 (in triangle)
(I)	B FLIGHT TEST INPUT #2	(L)	-32	(22)	
	SPARE		-33		
	SPARE		-34		
	SPARE		-35		
	SPARE		-36		
	SPARE		-37		
	SPARE		-38		
	SPARE		-39		
	SPARE		-40		
	SPARE		-41		
	SPARE		-42		
	SPARE		-43		
(I)	TRIM SERVO POS	(X)	-44	(22)	29J2-18
(I)		(Y)	-45	(22)	29J2-19
(I)		(Z)	-46	(22)	29J2-20
	SPARE		-47		
	SPARE		-48		
	SPARE		-49		
	SPARE		-50		
	SPARE		-51		
	SPARE		-52		
(O)	Y/D DISENGAGE ANNUN (28V/OPEN)		-53	(22)	APPENDIX D, REF APPENDIX C
(I)	AUTOPILOT DISCONNECT (OPEN/GND)		-54	(22)	APPENDIX D, REF APPENDIX C
(I)	TK POS REF		-55	(22)	129J1-13
(I)	TK GND REF		-56	(22)	129J1-14
(I)	TK NEG REF		-57	(22)	129J1-11
(I)	TK SIG	(H)	-58	(22)	129J1-12, 10J2B-60
(I)	TK OUT OF DETENT		-59	(22)	129J1-17, 10J2B-61
(I)	CS TK SIG	(H)	-60	(22)	129J1-2, 10J2B-58
(I)	CS TK OUT OF DETENT		-61	(22)	129J1-8,10J2B-59
	SPARE		C10J2B-62		

Interconnect Information
Table 501 (cont)

Flight Guidance Computer No. 2

IOB P	Function	Connector Pin	Connects To	
	SPARE	C10J2B-63		
	SPARE	-64		
(I)	EMERGENCY DISCONNECT (OPEN/28V)	-65 (22)	C10J1A-6, C10J1A-8, 11J2-76	REF APPX C
(I)	TRIM DISCONNECT (OPEN/GND)	-66 (22)	APPENDIX D	REF APPX C
(I)	YAW DAMPER DISCONNECT (OPEN/GND)	-67 (22)	SIG GND	REF APPX C
(I)	TEST SIGNAL ENABLE*	-68 (22)	2	REF APPX C
(I)	FTIU INSTALLED*	-69 (22)	2	REF APPX C
	SPARE	-70		
	SPARE	-71		
(I)	SPEED BRAKES DEPLOYED*	-72 (22)	A/C WIRING	REF APPX C
	SPARE	-73		
(I)	WEIGHT ON WHEELS*	-74 (22)	A/C WIRING	REF APPX C
	SPARE	-75		
	SPARE	-76		
	SPARE	-77		
(I)	GEAR DOWN*	-78 (22)	A/C WIRING	REF APPX C
(I)	MAINTENANCE TEST ENABLE*	-79 (22)	APPENDIX D	REF APPX C
	SPARE	-80		
(O)	TRIM DISENGAGE ANNUN (28V/OPEN)	-81 (22)	APPENDIX D	REF APPX C
(I)	PWR UP RESET GND INPUT	-82 (22)	2	
	SPARE	-83		
	SPARE	-84		
	SPARE	-85		
	SPARE	-86		
	SPARE	-87		
(O)	PILOT/COPILOT*CPL SELECT OUT (OPEN/GND)	-88 (22)	9J1A-93, C9J1A-93, 10J2B-88, APPX C	
(O)	GP ANN VALID (28V/OPEN)	-89 (22)	11J2-69	
	SPARE	-90		
	SPARE	-91		
	SPARE	C10J2B-92		

Interconnect Information
Table 501 (cont)

Flight Guidance Computer No. 2

IOB P	Function	Connector Pin	Connects To
	SPARE	C10J2B-93	
(I)	PITCH THUMB WHEEL (H)	-94 (22)	10J2B-104, 129J1-21
(I)	PITCH THUMB WHEEL (L)	-95 (22)	10J2B-105, 129J1-22
(O)	PANEL STROBE (H)	-96 (22)	11J2-5
(O)	(L)	-97 (22)	11J2-6
(O)	PANEL CLOCK (H)	-98 (22)	11J2-3
(O)	(L)	-99 (22)	11J2-4
(O)	GP SERIAL DATA REC (H)	-100 (22)	11J2-7
(O)	(L)	-101 (22)	11J2-8
(I)	GP SERIAL DATA TRANS (H)	-102 (22)	11J2-1
(I)	GP SERIAL DATA TRANS (L)	-103 (22)	11J2-2
(I)	CROSS PITCH THUMB WHEEL (H)	-104(22)	10J2B-94, 129J1-18
(I)	CROSS PITCH THUMB WHEEL (L)	-105 (22)	10J2B-95, 129J1-19
		SHIELD GND	
(I)	GP BUTTON ARM #2 (GND/OPEN)	C10J2B-106 (22)	11J2-38

Interconnect Information
Table 501 (cont)

Radio Altimeter No. 2

IOB P	Function	Connector Pin	Connects To
	SPARE	C20J1-A	
	SPARE	-B	
	SPARE	-C	
(I)	TEST INHIBIT*	-D ------NC	APPX C
(I)	OUTPUT TEST	-E (22)	C20J1-N, C10J2B-27, 10J2A-37, 137J1A-51 APPX C
(O)	TRACK INVALID	-F ------NC	
	SPARE	-G	
	SPARE	-H	
	SPARE	-J	
	SPARE	-K	
(O)	TRIP NO. 4 (400 FT)	-L ------NC	
(P)	+/- 15 V DC COMMON	-M ------NC	
(O)	OUTPUT COMMON	-N (22)	C20J1-E, C10J2B-27, 10J2A-37, 137J1A-51, APPX L
(O)	ALT TRIP COMMON	-P ------NC	
(O)	TRIP NO. 3 (50 FT)	-R ------NC	
	SPARE	-S	
(I)	TEST*	-T (22)	C134J1A-95, APPX C
(O)	TRIP NO. 1 (1200 FT)	-U ------NC	
(O)	TRIP NO. 2 (250 FT)	-V ------NC	
(O)	ALT OUTPUT (EH)	-W (22)	C10J2B-26, 10J2A-36, 137J1A-50
	SHIELD GND		
(O)	AUX OUTPUT (H)	-X (22)	APPX L
(O)	RAD ALT VALID (28V/OPEN)	-Y (22)	C10J2B-28, 10J2A-38, 137J1B-19, APPX C,APPX L
(P)	+15 V DC	-Z ------NC	
(P)	-15 V DC	-a ------NC	
(P)	POWER GND	-b (NOTE 3)	A/C PWR GND
(P)	+27.5 V DC	C20J1-c (NOTE 3)	A/C 28 V DC PWR

NOTE: FOR FURTHER INFORMATION ON THE RADIO ALTIMETER SYSTEM, PLEASE REF: AA-300, O & I MANUAL, PUB. No. 15-3321-06.

Interconnect Information
Table 501 (cont)

Radio Altimeter No. 2

IOB P	Function	Connector Pin		Connects To
(O)	TRANSMIT	C20J2 *	C21J1	COAX TO TRANSMIT ANTENNA
(I)	RECEIVE	C20J3 *	C22J1	COAX TO RECEIVE ANTENNA

*MATING CONNECTOR SPERRY PART NO. 4008064, GRFF4007-0002 (ST)
SPERRY PART NO. 4008065, GRFF4100-0001 (RT ANGLE)

Interconnect Information
Table 501 (cont)

Weather Radar Controller No. 2

IOB P	Function	Connector Pin	Connects To
(O)	SERIAL CONTROL (H)	C61J1-A (22)	59J1-a
(O)	SERIAL CONTROL (L)	-B (22)	59J1-b
(I)	SHIELD GND	-M (22)	
(P)	CONTROL PANEL GND	-C (20)	CHASSIS GND
(P)	28 VDC POWER	-D (20)	28VDC, A/C PWR
(P)	28 VDC PWR RTN	-E (20)	A/C PWR GND
	SPARE	-F	
(P)	28 V PANEL LIGHTING	-G ------NC	
(P)	5 V PANEL LIGHTING	-H (20)	A/C 5V LIGHTING
(P)	LIGHTING COMMON	-J (20)	A/C LIGHTING GND
(P)	PUSHBUTTON 28V LIGHTING	-K (22)	A/C 28V LIGHTING
	RESERVED	-L	
(O)	R/T ON/OFF (GND/OPEN)	-N (20)	59J1-U, C61J1-N, 65J1B-20, C65J1B-20, E65J1B-20
(I)	FORCED STANDBY *	-P (22)	A/C WOW SWITCH
	SPARE	C61J1-R thru U	

Interconnect Information
Table 501 (cont)

Weather Radar Controller No. 2

IOB P	Function	Connector Pin	Connects To
(O)	RANGE A	C61J2-A (22)	FIGURE D-4.2
(O)	RANGE B	-B (22)	FIGURE D-4.2
(O)	RANGE C	-C (22)	FIGURE D-4.2
(O)	RANGE D	-D (22)	FIGURE D-4.2
(O)	FPLN SELECTED (GND/OPEN)	-E (22)	FIGURE D-4.2
(I)	WX INT (H)	-F (22)	131J1-2
(O)	WX INT (W)	-G (22)	131J1-15
(I)	WX INT (L)	-H (22)	131J1-3
(I)	PROGRAM RANGE A	-J (22)	A/C WIRING APX C
(I)	PROGRAM RANGE B	-K (22)	A/C WIRING APX C
(I)	PROGRAM RANGE C	-L (22)	A/C WIRING APX C
(I)	PROGRAM RANGE D	-M (22)	A/C WIRING APX C
(I)	PROGRAM RANGE COMMON	-N (22)	A/C WIRING APX C
	RESERVED	-P	
(O)	ID PROG COMMON	-R (22)	C61J2-S
(I)	ID PROG	-S (22)	C61J2-R
	SPARE	C61J2-T thru U	

Interconnect Information
Table 501 (cont)

Symbol Generator No. 2

IOB P	Function		Connector Pin	Connects To
(B)	WX CNTL	(H)	C65J1A-1 (22)	59J1-e,E65J1A-1
(B)	DATA #2	(L)	-2 (22)	59J1-f,E65J1A-2
(P)	28 V DC PWR		-3 (NOTE 3)	A/C DC PWR
(P)	PWR GND		-4 (NOTE 3)	A/C DC PWR GND
(P)	SIGNAL GND		-5 (22)	SIGNAL GND
	RESERVED		-6	
	RESERVED		-7	
	RESERVED		-8	
	RESERVED		-9	
	SPARE		-10	
(I)	SG I.D.	A	-11------NC	
(I)		B	-12 (22)	C65J1B-50 REF APPX C
(O)	BC VALID (GND/OPEN)		-13 (22)	134J1A-98, C134J1A-98 REF APPX C
(I)	TCAS INSTALLED*		-14 (22)	APPX L REF APPX C
(I)	LX POWER ON*		-15 (22)	APPX F REF APPX C
(B)	SYS ASCB PRIMARY BUS	(H)	-16 (22)	SEE SECTION 3.3
(B)	SYS ASCB PRIMARY BUS	(L)	-17 (22)	SEE SECTION 3.3
(O)	SPARE		-18 -----NC	
	RESERVED		-19	
(I)	P870 INSTALLED*		-20 (22)	SIGNAL GND, APPX C
	SPARE		-21	
(B)	SG/DU BUS A	(H)	-22 (22)	SEE APPENDIX A FIG. 3B
(B)		(L)	-23 (22)	SEE APPENDIX A FIG. 3B
	RESERVED		-24	
(I)	MACH TAPE DISABLE*		-25 ------NC	
(I)	ILS/MLS* #1 SEL		-26 (22)	APPENDIX D REF APPX C
(I)	FPLN SEL*		-27 (22)	APPENDIX D REF APPX C
(I)	RANGE SELECT A		-28 (22)	APPENDIX D REF APPX C
(I)	RANGE SELECT B		-29 (22)	APPENDIX D REF APPX C
(I)	RANGE SELECT C		-30 (22)	APPENDIX D REF APPX C
(I)	RANGE SELECT D		-31 (22)	APPENDIX D REF APPX C
(B)	ADF NO. 1 ARINC 429	(H)	-32 (22)	ADF NO. 1 ARINC 429
(B)	ADF NO. 1 ARINC 429	(L)	-33 (22)	ADF NO. 1 ARINC 429
(B)	DME NO. 1 ARINC 429	(H)	-34 (22)	DME NO. 1 ARINC 429
(B)	DME NO. 1 ARINC 429	(L)	-35 (22)	DME NO. 1 ARINC 429
(B)	TA/RA NO. 2 ARINC 429	(H)	-36 (22)	APPX L
(B)	TA/RA NO. 2 ARINC 429	(L)	C65J1A-47 (22)	APPX L

Interconnect Information
Table 501 (cont)

Symbol Generator No. 2

IOB P	Function	Connector Pin	Connects To
(B)	ARINC 429 (H)	C65J1A-37 ------NC	
(B)	ARINC 429 (L)	-38 ------NC	
(B)	DADC NO. 1 ARINC 429 (L)	-39 (22)	E65J1A-39, 9J1B-70
(B)	DADC NO. 1 ARINC 429 (H)	-40 (22)	E65J1A-40, 9J1B-71
(B)	VOR NO. 1 ARINC 429 (L)	-41 (22)	VOR NO. 1 ARINC 429 APPENDIX D
(B)	VOR NO. 1 ARINC 429 (H)	-42 (22)	
(B)	MLS/ILS NO. 1 (H)	-43 (22)	
(B)	ARINC 429 (L)	-44 (22)	
(B)	SG/DU WXR BUS (H)	-45 (22)	SEE APPENDIX A
(B)	SG/DU WXR BUS (L)	-46 (22)	
(B)	IRS NO. 1 (H)	-48 (22)	170J1B-K12
(B)	ARINC 429 (L)	-49 (22)	170J1B-K13
(O)	PROG PIN GND OUT	-50	
(B)	P-870 WX (H)	-51 ------NC	
(B)	CNTL DATA #1 (L)	-52 ------NC	
(B)	LX OR TACAN ARINC 429 (H)	-53 (22)	APPX F, APPX M
(B)	LX OR TACAN ARINC 429 (L)	-54 (22)	APPX F, APPX M
(B)	BC ASCB PRIMARY (H)	-55 (22)	SEE SECTION 3.3
(B)	BC ASCB PRIMARY (L)	-56 (22)	
	SPARE	-57	
	RESERVED	-58	
(I)	SG PWR DN*	-59 (22)	A/C WIRING, C65J1A-61, E65J1A-61, 65J1A-61, 134J1A-42, C143J1A-42, APPENDIX B & C
(I)	SG1 REV*	C65J1A-60 (22)	A/C WIRING, E65J1A-60, 65J1A-60, 134J1A-41, C134J1A-41, 65J1A-59, APPENDIX B & C

Interconnect Information
Table 501 (cont)

Symbol Generator No. 2

IOB P	Function	Connector Pin	Connects To
(I)	SG2 REV*	C65J1A-61 (22)-------------------	A/C WIRING, E65J1A-61, 65J1A-61, 134J1A-42, C134J1A-42, C65J1A-59, APPENDIX B & C
(I)	SG3 REV*	-62 (22)-------------------	A/C WIRING, E65J1A-62, 65J1A-62, 134J1A-43, C134J1A-43, E65J1A-59, APPENDIX B & C
(I)	DU1 REV*	-63 (22)-------------------	A/C WIRING, E65J1A-63, 65J1A-63, 134J1A-44, C134J1A-44, APPENDIX B & C
(I)	DU3 REV*	-64 (22)-------------------	A/C WIRING, E65J1A-64, 65J1A-64, 134J1A-46, C134J1A-46, 132J1-22, APPENDIX B & C
(I)	DU4 REV*	C65J1A-65 (22)-------------------	A/C WIRING, E65J1A-65, 65J1A-65, 134J1A-47, C134J1A-47, 133J1-22, APPENDIX B & C

Interconnect Information
Table 501 (cont)

Symbol Generator No. 2

IOB P	Function	Connector Pin	Connects To
(I)	DU6 REV*	C65J1A-66 (22)-------------------	A/C WIRING, E65J1A-66, 65J1A-66, 134J1A-49, C134J1A-49, APPENDIX B & C
(I)	LX INSTALLED*	C65J1A-67 (22)-------------------	APPX F, APPX C

Interconnect Information
Table 501 (cont)

Symbol Generator No. 2

IOB P	Function	Connector Pin	Connects To
(I)	BC TEST REQUEST NO. 1*	C65J1B-1 (22)	65J1B-1, E65J1B-1, 134J1A-96
(I)	BC TEST REQUEST NO. 2*	-2 (22)	65J1B-2, E65J1B-2, C134J1A-96
	RESERVED	-3	
	RESERVED	-4	
(P)	CHASSIS GND	-5 (22)	CHASSIS GND
(P)	28 V DC PWR (BC) (H)	-6 (22)	A/C 28 V DC PWR
	(L)	-7 (22)	A/C PWR GND
(B)	IRS #3 ARINC 429 (H)	-8 (22)	E170J1B-K12
(B)	(L)	-9 (22)	E170J1B-K13
	SPARE	-10	
(I)	BC I.D. A	-11 NC	REF APPX C
(I)	B	-12 (22)	C65J1B-50 REF APPX C
(B)	LASERTRAK ARINC 429 (H)	-13 (22)	198J3-24 (OPT)
(B)	LASERTRAK ARINC 429 (L)	-14 (22)	198J3-25 (OPT)
	SPARE	-15	
(B)	SYS ASCB (H)	-16 (22)	REF SEC. 3.3
(B)	SECONDARY BUS (L)	-17 (22)	REF SEC. 3.3
	RESERVED	-18	
	RESERVED	-19	
(I)	WX ON*	-20 (22)	59J1U, 61J1-N, C61J1-N, C65J1B-20, E65J1B-20, APPX C
	RESERVED	-21	
(B)	SG/DU BUS B (H)	-22 (22)	SEE APPENDIX A
(B)	(L)	-23 (22)	SEE APPENDIX A
(I)	COMPARATOR MONITOR RESET*	-24 (22)	APPENDIX D, REF APX C
(I)	COMPARATOR MONITOR DISABLE*	-25 (22)	A/C WIRING REF APX C
(I)	ILS/MLS* #2	-26 (22)	APPENDIX D, REF APX C
(I)	SG ID C	-27 NC	
	SPARE	-28	
	RESERVED	-29	
(B)	RESERVED	C65J1B-30	

Interconnect Information
Table 501 (cont)

Symbol Generator No. 2

IOB P	Function	Connector Pin		Connects To
(B)	RESERVED	C65J1B-31		
(B)	ADF NO. 2 (H)	-32	(22)	ADF NO. 2
(B)	ARINC 429 (L)	-33	(22)	ARINC 429
(B)	DME NO. 2 ARINC 429 (H)	-34	(22)	DME NO. 2
(B)	DME NO. 2 ARINC 429 (L)	-35	(22)	ARINC 429
	RESERVED	-36		
(B)	WX VIDEO DATA (H)	-37	(22)	59J1-k
(B)	(L)	-38	(22)	59J1-s
(B)	DADC NO. 2 (H)	-39	(22)	C9J1B-26
(B)	ARINC 429 (L)	-40	(22)	C9J1B-27
(B)	VOR NO. 2 ARINC 429 (H)	-41	(22)	VOR NO. 2
(B)	VOR NO. 2 ARINC 429 (L)	-42	(22)	ARINC 429
(B)	MLS/ILS NO. 2 (H)	-43	(22)	APPENDIX D
(B)	ARINC 429 (L)	-44	(22)	
	RESERVED	-45		
(B)	BC ASCB SECONDARY (H)	-46	(22)	SEE SECTION 3.3
(B)	(L)	-47	(22)	
(B)	IRS NO. 2 (H)	-48	(22)	C170J1B-E5
(B)	ARINC 429 (L)	-49	(22)	C170J1B-E6
(O)	PROG PIN GND OUT	-50	(22)	1
(O)	SG VALID OUT (GND/OPEN)	-51	NC	
(O)	SG OVERTEMP OUT (GND/OPEN)	-52	(22)	134J1A-52, C134J1A-52, SEE APPENDIX C
(O)	BELOW DH OUT (GND/OPEN)	-53		
(I)	WEIGHT ON WHEELS*	-54	(22)	A/C WIRING
(I)	JOYSTICK FORE*	-55	(22)	APPENDIX D
(I)	JOYSTICK AFT*	-56	(22)	APPENDIX D
(I)	JOYSTICK LT*	-57	(22)	APPENDIX D
(I)	JOYSTICK RT*	-58	(22)	APPENDIX D
(I)	JOYSTICK ENTER*	-59	(22)	APPENDIX D
(I)	JOYSTICK CLEAR*	-60	(22)	APPENDIX D
(I)	WX FAULT*	-61	(22)	APPENDIX D
(I)	WX TARGET ALERT*	-62	(22)	APPENDIX D
	RESERVED	-63		
	RESERVED	-64		
(O)	CS HDG SRC DISPLAYED (GND/OPEN)	-65	(22)	A/C WIRING
(I)	MAINTENANCE TEST GND	-66	(22)	APPENDIX D
	RESERVED	C65J1B-67		

REF APPX C

Interconnect Information
Table 501 (cont)

Symbol Generator No. 3

IOB P	Function	Connector Pin	Connects To
(B)	WX (H)	E65J1A-1 (22)	C65J1A-1,59J1-e
(B)	CNTL DATA #2 (L)	-2 (22)	C65J1A-2,59J1-f
(P)	28 V DC PWR	-3 (NOTE 3)	A/C DC PWR
(P)	PWR GND	-4 (NOTE 3)	A/C DC PWR GND
(P)	SIGNAL GND	-5 (22)	SIGNAL GND
	RESERVED	-6	
	RESERVED	-7	
	RESERVED	-8	
	RESERVED	-9	
	SPARE	-10	
(I)	SG I.D. A	-11 (22)	E65J1B-50 REF APPX C
(I)	B	-12 (22)	E65J1B-50
(O)	BC VALID (GND/OPEN)	-13 (22)	134J1A-99, C134J1A-99
(I)	TCAS INSTALLED*	-14 (22)	APPX L REF APPX C
(I)	LX POWER ON*	-15 (22)	APPX F
(B)	SYS ASCB PRIMARY BUS (H)	-16 (22)	SEE SECTION 3.3
(B)	SYS ASCB PRIMARY BUS (L)	-17 (22)	
(O)	SPARE	-18 ------NC	
	RESERVED	-19	
(I)	P870 INSTALLED*	-20 (22)	APPX H, APPX C
	SPARE	-21	
(B)	SG/DU BUS A (H)	-22 (22)	SEE APPENDIX A
(B)	(L)	-23 (22)	
	RESERVED	-24	
(I)	MACH TAPE DISABLE*	-25 ------NC	
(I)	ILS/MLS* #1 SEL	-26 (22)	APPENDIX D REF APPX C
(I)	FPLN SEL*	-27 (22)	APPENDIX D
(I)	RANGE SELECT A	-28 (22)	APPENDIX D
(I)	RANGE SELECT B	-29 (22)	APPENDIX D
(I)	RANGE SELECT C	-30 (22)	APPENDIX D
(I)	RANGE SELECT D	-31 (22)	APPENDIX D
(B)	ADF NO. 1 (H) ARINC 429	-32 (22)	ADF NO. 1 ARINC 429
(B)	ADF NO. 1 (L) ARINC 429	-33 (22)	
(B)	DME NO. 1 ARINC 429 (H)	-34 (22)	DME NO.1 ARINC 429
(B)	DME NO. 1 ARINC 429 (L)	-35 (22)	
(B)	TA/RA NO. 1 ARINC 429 (H)	-36 (22)	APPX L
(B)	TA/RA NO. 1 ARINC 429 (L)	E65J1A-47 (22)	APPX L

Interconnect Information
Table 501 (cont)

Symbol Generator No. 3

IOB P	Function	Connector Pin	Connects To
(B)	ARINC 429 (H)	E65J1A-37 ------NC	
(B)	ARINC 429 (L)	-38 ------NC	
(B)	DADC NO. 1 ARINC 429 (H)	-39 (22)	C65J1A-39, 9J1B-70
(B)	DADC NO. 1 ARINC 429 (L)	-40 (22)	C65J1A-40, 9J1B-71
(B)	VOR NO. 1 ARINC 429 (H)	-41 (22)	VOR NO. 1 ARINC 429 APPENDIX D
(B)	VOR NO. 1 ARINC 429 (L)	-42 (22)	
(B)	MLS/ILS NO. 1 (H)	-43 (22)	
(B)	ARINC 429 (L)	-44 (22)	
(B)	SG/DU WXR BUS (H)	-45 (22)	SEE APPENDIX A
(B)	SG/DU WXR BUS (L)	-46 (22)	
(B)	IRS NO. 1 (H)	-48 (22)	170J1B-F14
(B)	ARINC 429 (L)	-49 (22)	170J1B-F15
(O)	PROG PIN GND OUT	-50	
(B)	WX (H)	-51 (22)	59J1-m,65J1A-51
(B)	CNTL DATA #1 (L)	-52 (22)	59J1-n,65J1A-52
(B)	LX OR TACAN ARINC 429 (H)	-53 (22)	APPX F, APPX M
(B)	LX OR TACAN ARINC 429 (L)	-54 (22)	APPX F, APPX M
(B)	BC ASCB PRIMARY (H)	-55 (22)	SEE SECTION 3.3
(B)	BC ASCB PRIMARY (L)	-56 (22)	
	SPARE	-57	
	RESERVED	-58	
(I)	SG PWR DN*	-59 (22)	A/C WIRING, E65J1A-62, 65J1A-62, C65J1A-62, 134J1A-43, C134J1A-43, APPENDIX B & C
(I)	SG1 REV*	E65J1A-60 (22)	A/C WIRING, 65J1A-60, C65J1A-60, 134J1A-41, C134J1A-41, 65J1A-59, APPENDIX B & C

Interconnect Information
Table 501 (cont)

Symbol Generator No. 3

IOB P	Function	Connector Pin	Connects To
(I)	SG2 REV*	E65J1A-61 (22)-------------------	A/C WIRING, 65J1A-61, C65J1A-61, 134J1A-42, C134J1A-42, C65J1A-59, APPENDIX B & C
(I)	SG3 REV*	-62 (22)-------------------	A/C WIRING, 65J1A-62, C65J1A-62, 134J1A-43, C134J1A-43, E65J1A-59, APPENDIX B & C
(I)	DU1 REV*	-63 (22)-------------------	A/C WIRING, 65J1A-63, C65J1A-63, 134J1A-44, C134J1A-44, APPENDIX B & C
(I)	DU3 REV*	-64 (22)-------------------	A/C WIRING, 65J1A-64, C65J1A-64, 134J1A-46, C134J1A-46, 132J1-22, APPENDIX B & C
(I)	DU4 REV*	E65J1A-65 (22)-------------------	A/C WIRING, 65J1A-65, C65J1A-65, 134J1A-47, C134J1A-47, 133J1-22, APPENDIX B & C

Interconnect Information
Table 501 (cont)

Symbol Generator No. 3

IOB P	Function	Connector Pin	Connects To
(I)	DU6 REV*	E65J1A-66 (22)-------------------	A/C WIRING, 65J1A-66, C65J1A-66, 134J1A-49, C134J1A-49, APPENDIX B & C
(I)	LX INSTALLED*	E65J1A-67 (22)-------------------	APPX F, APPX C

Interconnect Information
Table 501 (cont)

Symbol Generator No. 3

IOB P	Function	Connector Pin	Connects To
(I)	BC TEST REQUEST NO. 1*	E65J1B-1 (22)	65J1B-1, C65J1B-1, 134J1A-96
(I)	BC TEST REQUEST NO. 2*	-2 (22)	65J1B-2, C65J1B-2, C134J1A-96,
	RESERVED	-3	
	RESERVED	-4	
(P)	CHASSIS GND	-5 (22)	CHASSIS GND
(P)	28 V DC PWR (BC)	-6 (22)	A/C 28 V DC PWR
(P)	28 V DC GND (BC)	-7 (22)	A/C PWR GND
(B)	IRS #3 ARINC 429 (H)	-8 (22)	E170J1B-F14
(B)	(L)	-9 (22)	E170J1B-F15
	SPARE	-10	
(I)	BC I.D. A	-11 (22)	E65J1B-50 REF
(I)	B	-12 (22)	E65J1B-50 APPX C
(B)	LASERTRAK ARINC 429 (H)	-13 (22)	198J2-24 (OPT)
(B)	LASERTRAK ARINC 429 (L)	-14 (22)	198J2-25 (OPT)
	SPARE	-15	
(B)	SYS ASCB (H)	-16 (22)	REF SEC. 3.3
(B)	SECONDARY BUS (L)	-17 (22)	
	RESERVED	-18	
	RESERVED	-19	
(I)	WX ON*	-20 (22)	59J1-U, 61J1-N, C61J1-N, 65J1B-20, C65J1B-20, APPX C
	RESERVED	-21	
(B)	SG/DU BUS B (H)	-22 (22)	SEE APPENDIX A
(B)	(L)	-23 (22)	
(I)	COMPARATOR MONITOR RESET*	-24 (22)	APPENDIX D (REF APPX C)
(I)	COMPARATOR MONITOR ENABLE*	-25 (22)	A/C WIRING (REF APPX C)
(I)	ILS/MLS* #2	-26 (22)	APPENDIX D (REF APPX C)
(I)	SG ID C	-27 (22)	E65J1B-50 (REF APPX C)
	SPARE	-28	
	RESERVED	-29	
(B)	RESERVED	-30	
(B)	RESERVED	E65J1B-31	

Interconnect Information
Table 501 (cont)

Symbol Generator No. 3

IOB P	Function	Connector Pin	Connects To
(B)	ADF NO. 2 ARINC 429 (H)	E65J1B-32 (22)	ADF NO. 2 ARINC 429
(B)	ADF NO. 2 ARINC 429 (L)	-33 (22)	
(B)	DME NO. 2 ARINC 429 (H)	-34 (22)	DME NO. 2 ARINC 429
(B)	DME NO. 2 ARINC 429 (L)	-35 (22)	
	RESERVED	-36	
(B)	WX VIDEO DATA (H)	-37 (22)	59J1-i
(B)	(L)	-38 (22)	59J1-j
(B)	DADC NO. 2 (H)	-39 (22)	65J1B-39, C9J1B-70
(B)	ARINC 429 (L)	-40 (22)	65J1B-40, C9J1B-71
(B)	VOR NO. 2 ARINC 429 (H)	-41 (22)	VOR NO. 2 ARINC 429
(B)	VOR NO. 2 ARINC 429 (L)	-42 (22)	
(B)	MLS/ILS NO. 2 (H)	-43 (22)	APPENDIX D
(B)	ARINC 429 (L)	-44 (22)	
	RESERVED	-45	
(B)	BC ASCB SECONDARY (H)	-46 (22)	SEE SECTION 3.3
(B)	(L)	-47 (22)	
(B)	IRS NO. 2 (H)	-48 (22)	C170J1B-F14
(B)	ARINC 429 (L)	-49 (22)	C170J1B-F15
(O)	PROG PIN GND OUT	-50 (22)	1
(O)	SG VALID OUT (GND/OPEN)	-51 ------NC	
(O)	SG OVERTEMP OUT (GND/OPEN)	-52 (22)	134J1A-53, C134J1A-53, SEE APPENDIX C
(O)	BELOW DH OUT (GND/OPEN)	-53	
(I)	WEIGHT ON WHEELS*	-54 (22)	A/C WIRING (REF APPX C)
(I)	JOYSTICK FORE*	-55 (22)	APPENDIX D (REF APPX C)
(I)	JOYSTICK AFT*	-56 (22)	APPENDIX D (REF APPX C)
(I)	JOYSTICK LT*	-57 (22)	APPENDIX D (REF APPX C)
(I)	JOYSTICK RT*	-58 (22)	APPENDIX D (REF APPX C)
(I)	JOYSTICK ENTER*	-59 (22)	APPENDIX D (REF APPX C)
(I)	JOYSTICK CLEAR*	-60 (22)	APPENDIX D (REF APPX C)
(I)	WX FAULT*	-61 (22)	APPENDIX D (REF APPX C)
(I)	WX TARGET ALERT*	-62 (22)	APPENDIX D (REF APPX C)
	RESERVED	E65J1B-63	

Interconnect Information
Table 501 (cont)

Symbol Generator No. 3

IOB P	Function	Connector Pin		Connects To
	RESERVED	E65J1B-64		
(O)	CS HDG SRC DISPLAYED (GND/OPEN)	-65	(22)-------------------	A/C WIRING
(I)	MAINTENANCE TEST GND	-66	(22)-------------------	APPENDIX D
	RESERVED	E65J1B-67		

Interconnect Information
Table 501 (cont)

Display Controller No. 2

IOB P	Function	Connector Pin		Connects
(P)	28 V DC POWER	C115J1-A	(NOTE 3)	A/C 28 V DC
(P)	28 V DC POWER RTN	-B	(NOTE 3)	A/C 28 V DC RTN
(P)	PANEL DIMMING CONTROL (H)	-C	(22)	A/C 5 V DC
(P)	PANEL DIMMING CONTROL (L)	-D	(22)	LIGHTING CNTL
(P)	SIG GROUND	-E	(22)	A/C SIG GND
(P)	CHASSIS GROUND	-F	(22)	CHASSIS GND
	SPARE	-G		
	SPARE	-H		
	SPARE	-J		
	SPARE	-K		
	SPARE	-L		
	RESERVED	-M		
(I)	ANNUN DIMMING (L)	-N	(22)	A/C 5 V DC
(I)	ANNUN DIMMING 5 V (H)	-P	(22)	ANNUN DIMMING
(B)	SYS ASCB PRIMARY BUS (H)	-R	(22)	SEE SECTION 3.3
(B)	(L)	-S	(22)	
	RESERVED TEST	-T		
	RESERVED TEST	-U		
(P)	ANNUNCIATOR PWR (H)	-V	(22)	A/C 28 V DC
(P)	(L)	-W	(22)	POWER
(I)	DAY/NIGHT (OPEN/28 V DC)	-X	(22)	DAY/NIGHT ANNUN DIMMING DISCRETE APPENDIX C
	RESERVED TEST	-Y		
	SPARE	-Z		
(I)	FGC LEFT PRIORITY (28V/OPEN)	-a	(22)	10J1A-37, 11J1-70, 115J1-a, APPX C
(I)	FGC RIGHT PRIORITY (28V/OPEN)	-b	(22)	C10J1A-37, 11J2-70, 115J1-b, APPX C
(I)	ARINC ILS INSTALLED*	-c	(22)	A/C WIRING APPX K } REF APPX C
(I)	MLS INSTALLED*	-d	(22)	
(I)	SPARE	C115J1-e	(22)	

Interconnect Information
Table 501 (cont)

Display Controller No. 2

IOB P	Function	Connector Pin	Connects
(I)	SPARE	C115J1-f ------NC	8
(I)	PILOT/COPILOT*	-g (22)-------------------	A/C SIG GND } REF APPX C
(I)	IRS TRIPLEX/DUAL*	-h ------NC	
(I)	LTRK INSTALLED*	-i (22)-------------------	A/C WIRING
(I)	TCAS INSTALLED*	-j (22)-------------------	APPX L
(I)	WOW*	-k (22)-------------------	A/C WIRING
(I)	TCAS RA	-m (22)-------------------	APPX L
(I)	RESERVED	-n	
(I)	EMER CHECKLIST SELECT*	-p (22)-------------------	115J1-p, 134J1A-103, C134J1A-103 } REF APPX C
(I)	CHECKLIST ENABLE*	-q (22)-------------------	115J1-q, 134J1A-104, C134J1A-104
	SPARE	-r	
	SPARE	-s	
	SPARE	-t	
	SPARE	-u	
(O)	SUBTEST SELECT (GND/OPEN)	-v (22)-------------------	11J1-35, 11J2-35, 115J1-v } REF APPX C
	SPARE	-w	
	SPARE	-x	
	SPARE	-y	
(O)	FGC RIGHT PRIORITY SELECT (GND/OPEN)	-z (22)-------------------	11J2-62
(I)	MAINT. TEST ENABLE*	-AA (22)------------------	APP D, REF APP C
(I)	CALIB/TEST	-BB ------NC	REF APPENDIX C
	SPARE	-CC	
(I)	LAMP TEST*	-DD (22)------------------	A/C WIRING, REF APPENDIX C
	SPARE	-EE	
(O)	ILS/MLS SELECT OUT (GND/OPEN)	-FF (22)------------------	APPENDIX D, REF APPENDIX C
(O)	NAV RETUNE	-GG (22)------------------	APPX K, REF APPX C
(O)	FGC LEFT PRIORITY SELECT (GND/OPEN)	C115J1-HH (22)------------------	11J2-61

Interconnect Information
Table 501 (cont)

Display Controller No. 2

IOB P	Function		Connector Pin	Connects
(B)	SYS ASCB	(H)	C115J2-A (22)	SEE SECTION 3.3
(B)	SECONDARY BUS	(L)	-B (22)	
	SPARE		-C	
	SPARE		-D	
	SPARE		-E	
	SPARE		-F	
	SPARE		-G	
	SPARE		-H	
	SPARE		-J	
	SPARE		-K	
(I)		(H)	-L (22)	C9J1A-35
(O)	BARO SET	(W)	-M (22)	C9J1A-36
(I)		(L)	-N (22)	C9J1A-37
			SHIELD GND	
	SPARE		-P	
(I)	PHOTO SENSOR #1	(H)	-R (22)	C130J1-28, C131J1-29
(I)		(L)	-S (22)	C130J1-41, C131J1-42
(I)	PHOTO SENSOR #2	(H)	-T (22)	C130J1-29, C131J1-28
(I)		(L)	-U (22)	C130J1-42, C131J1-41
(I)	PHOTO SENSOR #3	(H)	-V (22)	130J1-26, C130J1-26, 131J1-26, C131J1-26, 132J1-26, 133J1-26, 115J2-V, REMOTE LT SENSOR (H)
(I)	PHOTO SENSOR #3	(L)	C115J2-W (22)	130J1-27, C130J1-27, 131J1-27, C131J1-27, 132J1-27, 133J1-27, 115J2-W, REMOTE LT SENSOR (L)

Interconnect Information
Table 501 (cont)

Display Controller No. 2

IOB P	Function		Connector Pin	Connects
	SPARE		C115J2-X	
	SPARE		-Y	
	SPARE		-Z	
	SPARE		-a	
	SPARE		-b	
(I)	CRS SEL #1	(H)	-c (24)	11J1-32, 115J2-c
(I)		(L)	-d (24)	11J1-33, 115J2-d
(I)	CRS SEL #1 SYNC (GND/OPEN)		-e (24)	11J1-36, 115J2-e
	SPARE		-f	
(I)	CRS SEL #2	(H)	-g (24)	11J2-32, 115J2-g
(I)		(L)	-h (24)	11J2-33, 115J2-h
(I)	CRS SEL #2 SYNC (GND/OPEN)		C115J2-j (24)	11J2-36, 115J2-j

Interconnect Information
Table 501 (cont)

CDU No. 2

IOB P	Function		Connector Pin	Connects To
	SPARE		C120J1-A	
(P)	+28 V DC POWER		-B (NOTE 3)	A/C 28 V DC PWR
(P)	POWER RETURN		-C (NOTE 3)	A/C POWER GND
(I)	PANEL LIGHTING RTN		-D (22)	A/C POWER GND
	SPARE		-E	
(P)	28 V ANNUN LIGHTING		-F (20)	A/C 28 V DC PWR
(P)	CHASSIS GND		-G (20)	A/C CHASSIS GND
(P)	ANNUN LIGHTING RTN		-H (22)	A/C LTNG GND
(P)	5V KEYBOARD PANEL LTNG		-J (22)	A/C LTNG GND
	RESERVED		-K	
	SPARE		-L	
(B)	RS422 XMTR -	(H)	-M (22)	C121J1A-55
(B)	(DATA) NAV COMP	(L)	-N (22)	C121J1A-56
			SHIELD GND	
(B)	RS422 XMTR -	(H)	-P (22)	C121J1B-7
(B)	(CNTL) NAV COMP	(L)	-R (22)	C121J1B-8
			SHIELD GND	
(B)	RS422 RCVR -	(H)	-S (22)	C121J1A-65
(B)	(DATA) NAV COMP	(L)	-T (22)	C121J1A-66
(B)	RS422 RCVR -	(H)	-U (22)	C121J1B-32
(B)	(CNTL) NAV COMP	(L)	V (22)	C121J1B-33
(B)	RS422 RCVR -	(H)	-W (22)	C121J1B-35
(B)	(CLK) NAV COMP	(L)	-X (22)	C121J1B-36
(B)	RS422 XMTR -	(H)	-Y (22)	C122J1A-103
(B)	(DATA) PERF COMP	(L)	-Z (22)	C122J1A-104
			SHIELD GND	
(B)	RS422 XMTR -	(H)	-a (22)	C122J1A-105
(B)	(CNTL) PERF COMP	(L)	-b (22)	C122J1A-106
			SHIELD GND	
(B)	RS422 RCVR -	(H)	-c (22)	C122J1A-101
(B)	(DATA) PERF COMP	(L)	-d (22)	C122J1A-102
(B)	RS422 RCVR -	(H)	-e (22)	C122J1A-99
(B)	(CNTL) PERF COMP	(L)	-f (22)	C12J1A-100
(B)	RS422 RCVR -	(H)	-g (22)	C122J1A-97
(B)	(CLK) PERF COMP	(L)	-h (22)	C122J1A-98
(O)	CDU VALID (GND/OPEN)		C120J1-i (22)	C121J1B-100, I34J1A-76, C134J1A-76

Interconnect Information
Table 501 (cont)

CDU No. 2

IOB P	Function	Connector Pin		Connects To
	SPARE	C120J1-j		
	SPARE	-k		
(O)	R PHOTO SENSOR OUT	-m	(22)--------------------	TEST ONLY
	L PHOTO SENSOR OUT	-n	(22)--------------------	TEST ONLY
	SPARE	-p		
(I)	DIM CALIBRATION	-q	(22)--------------------	TEST ONLY
	SPARE	-r		
(I)	LAMP TEST*	-s	(22)--------------------	A/C LAMP TEST, REF APPX C
	SPARE	-t		
	SPARE	-u		
(I)	ANNUN LIGHTING BRIGHT/DIM (OPEN/28V)	-v	(22)--------------------	A/C WIRING, REF APPX C
(I)	ANNUN LIGHTING DIM CONTROL (0-28VDC)	-w	(22)--------------------	A/C WIRING
	SPARE	-x		
	SPARE	-y		
	SPARE	-z		
	SPARE	-AA		
	SPARE	-BB		
	SPARE	-CC		
	SPARE	-DD		
(I)	SELF TEST ENBL*	-EE	------NC	
	SPARE	-FF		
	SPARE	-GG		
	SPARE	C120J1-HH		

Interconnect Information
Table 501 (cont)

Navigation Computer No. 2

IOB P	Function		Connector Pin	Connects To
(P)	AIRCRAFT BATT +28V		C121J1A-1 (20)	A/C 28 V DC BATTERY DIRECT
	SPARE		-2	
(P)	+28 V DC POWER		-3 (NOTE 3)	A/C 28 V DC PWR
(P)	POWER RETURN		-4 (NOTE 3)	A/C PWR GND
(P)	CHASSIS GROUND		-5 (20)	CHASSIS GND
(P)	SIGNAL GROUND		-6 (20)	SIGNAL GND
(P)	AIRCRAFT BATT RETURN		-7 (20)	A/C POWER GND
	RESERVED		-8	
	RESERVED		-9	
(B)	SYS ASCB PRI BUS	(H)	-10 (22)	REF. SECT 3.3
(B)	SYS ASCB PRI BUS	(L)	-11 (22)	
	SPARE		-12	
	RESERVED		-13	
(I)	NO CLOCK ASCB*		-14 (22)	SIG GND, REF. APPX C
	SPARE		-15	
(B)	ARINC 429 RCVR -	(H)	-16 (22)	APPX D
(B)	MLS/ILS PRIMARY	(L)	-17 (22)	APPX D
(B)	ARINC 429 RCVR -	(H)	-18 (22)	DME NO. 2, ARINC 429
(B)	DME PRIMARY	(L)	-19 (22)	
(B)	RS422 RCVR -	(H)	-20 NC	
(B)	DME PRIMARY	(L)	-21 NC	
	RESERVED		-22	
(B)	ARINC 429 RCVR -	(H)	-23 (22)	149J1-24 (OPT)
(B)	LTS #2	(L)	-24 (22)	149J1-25 (OPT)
	RESERVED		-25	
(B)	ARINC 429 RCVR -	(H)	-26 (22)	C149J1-38 (OPT)
(B)	LTS #1	(L)	-27 (22)	C149J1-39 (OPT)
(B)	RS422 RCVR -	(H)	-28 (22)	123J1-T, 121J1A-28
(B)	DATA LOADER (DATA)	(L)	-29 (22)	123J1-S, 121J1A-29
(B)	RS422 RCVR -	(H)	-30 NC	
(B)	NAV PRIMARY	(L)	-31 NC	
(B)	ARINC 429 RCVR -	(H)	-32 (22)	VOR NO. 2, ARINC 429
(B)	NAV PRIMARY	(L)	-33 (22)	
	RESERVED		-34	
(B)	AFIS/ACRS	(H)	-35 (22)	DMUJ1-22 APPX D
(B)	RX BUS	(L)	C121J1A-36 (22)	DMUJ1-23

Interconnect Information
Table 501 (cont)

Navigation Computer No. 2

IOB P	Function		Connector Pin		Connects To
	RESERVED		C121J1A-37		
	RESERVED		-38		
	RESERVED		-39		
(B)	RS422 XMTR -	(H)	-40	------NC	
(B)	GENERAL BUS #3	(L)	-41	------NC	
	RESERVED		-42		
(B)	ARINC 429 REC	(H)	-43	(22)	VOR NO. 1,
(B)	NAV SECONDARY	(L)	-44	(22)	ARINC 429
(B)	ARINC 429 XMTR	(H)	-45	(22)	170J1B-C5, E170J1B-C5
(B)	GEN BUS SECONDARY	(L)	-46	(22)	170J1B-C6, E170J1B-C6
	SHIELD GND				

NOTE: GEN BUS SECONDARY OUTPUT ALSO GOES TO THE FOLLOWING: ADF #1, COMM #1, DME #1, ILS #1, MLS #1, VOR #1, AND XPDR #1

IOB P	Function		Connector Pin		Connects To
(I)	HIGH/LOW* SPEED BUS-LTS#1		-47	-----NC	APPX C
(I)	HIGH/LOW* SPEED BUS-LTS#2		-48	-----NC	APPX C
(I)	HIGH/LOW* SPEED BUS-LTS#3		-49	-----NC	APPX C
(B)	ARINC 429 XMTR	(H)	-50	(22)	149J1-26 (OPT) C149J1-18 (OPT) C170J1B-A8 DMUJ1-24 (APPX D)
(B)	GEN BUS PRIMARY	(L)	121J1A-51	(22)	149J1-27 (OPT) C149J1-37 (OPT) C170J1B-A9 DMUJ1-25 (APPX D)
	SHIELD GND				

NOTE: GEN BUS PRIMARY OUTPUT ALSO GOES TO THE FOLLOWING: ADF #2, COMM #2, DME #2, ILS #2, MLS #2, VOR #2, AND XPDR #2

Interconnect Information
Table 501 (cont)

Navigation Computer No. 2

IOB P	Function		Connector Pin	Connects To
(B)	RS422 XMTR -	(H)	C121J1A-52 (22)	123J1-H, 121J1A-52
(B)	DATA LOADER (DATA)	(L)	-53 (22)	123J1-G, 121J1A-53
			SHIELD GND	
	SPARE		-54	
(B)	RS422 RCVR -	(H)	-55 (22)	C120J1-M
(B)	(DATA) CDU	(L)	-56 (22)	C120J1-N
	SPARE		-57	
	RESERVED		-58	
	RESERVED		-59	
	RESERVED		-60	
	RESERVED		-61	
	RESERVED		-62	
	RESERVED		-63	
	RESERVED		-64	
(B)	RS422 XMTR -	(H)	-65 (22)	C120J1-S
(B)	(DATA) CDU	(L)	-66 (22)	C120J1-T
			SHIELD GND	
	RESERVED		C121J1A-67	

Interconnect Information
Table 501 (cont)

Navigation Computer No. 2

IOB P	Function		Connector Pin	Connects To
	RESERVED		C121J1B-1	
	RESERVED		-2	
	SPARE		-3	
	RESERVED		-4	
	RESERVED		-5	
	SPARE		-6	
(B)	RS 422 CDU CNTL RCVR	(H)	-7 (22)	C120J1-P
(B)		(L)	-8 (22)	C120J1-R
(O)	TAG SYNC		-9 (22)	121J1B-34
(B)	RS 232 RCVR		-10 (22)	FLT TEST ONLY
	RETURN	PORT C	-11 (22)	FLT TEST ONLY
(B)	RS 232 XMTR		-12 (22)	FLT TEST ONLY
(B)	RS 232 RCVR		-13 (22)	FLT TEST ONLY (2)
	RETURN	PORT A	-14 (22)	FLT TEST ONLY (7)
(B)	RS 232 XMTR		-15 (22)	FLT TEST ONLY (3)
(O)	CDU SYNC		-16 (22)	121J1B-48
(B)	RS 232-RCVR		-17 (22)	FLIGHT TEST ONLY
	RETURN	PORT B	-18 (22)	FLIGHT TEST ONLY
(B)	RS 232-XMTR		-19 (22)	FLIGHT TEST ONLY
(B)	RS 422 XMTR- DATA	(H)	-20 (22)	123J1-K, 121J1B-20
	LOADER (CLK)	(L)	-21 (22)	123J1-J, 121J1B-21
(B)	ARINC 429 RCVR-	(H)	-22 (22)	DME NO. 1, ARINC 429
(B)	DME SECONDARY	(L)	-23 (22)	
(B)	RS 422 RCVR-	(H)	-24 ------NC	
(B)	DME SECONDARY	(L)	-25 ------NC	
	RESERVED		-26	
	RESERVED		-27	
(B)	SYS ASCB SEC BUS	(H)	-28 (22)	REF. SECT 3.3
	RESERVED		-29	
	RESERVED		-30	
(B)	SYS ASCB SEC BUS	(L)	-31 (22)	REF. SECT 3.3
(B)	RS422 XMTR CNTL-CDU	(H)	-32 (22)	C120J1-U
(B)		(L)	-33 (22)	C120J1-V
		SHIELD GND		
(I)	TAG SYNC		C121J1B-34 (22)	121J1B-9

Interconnect Information
Table 501 (cont)

Navigation Computer No. 2

IOB P	Function	Connector Pin	Connects To
(B)	RS422 XMTR (H)	C121J1B-35 (22)	C120J1-W
(B)	CLK-CDU (L)	-36 (22)	C120J1-X
		SHIELD GND	
(O)	TRUE/MAG SELECT (GND/OPEN)	-37 (22)	REF APPX C
(O)	ONSIDE TUNING CNTL (AUTOTUNE)(GND/OPEN)	-38 (22)	NAV CONT #2, 121J1B-54
(O)	REMOTE TUNING CONTROL (GND/OPEN)	-39	NC
(O)	LAT WPT ALERT (GND/OPEN)	-40 (22)	REF APPX C
(O)	VERT WPT ALERT (GND/OPEN)	-41 (22)	REF APPX C
(O)	DEAD RECKONING (GND/OPEN)	-42 (22)	REF APPX C
(O)	OFFSET ALERT (GND/OPEN)	-43 (22)	REF APPX C
(O)	APPR SENSITIVITY (GND/OPEN)	-44 (22)	REF APPX C
(O)	INDEP OP (GND/OPEN)	-45 (22)	REF APPX C
(O)	CDU MSG (GND/OPEN)	-46	NC
(O)	DGRADE ACCURACY (GND/OPEN)	-47 (22)	REF APPX C
(I)	CDU SYNC	-48 (22)	121J1B-16
(O)	NAV COMP VALID (GND/OPEN)	-49 (22)	REF APPX C
	SPARE	-50	
	SPARE	-51	
	RESERVED	-52	
(O)	VERTICAL TRACK AURAL ALERT (GND/OPEN)	-53	NC
(O)	CROSSSIDE TUNING CONTROL (AUTOTUNE) (GND/OPEN)	-54 (22)	121J1B-38, NAV CONT #1
	RESERVED	-55	
	RESERVED	-56	
(B)	ARINC 429 (H)	-57	NC
(B)	RCVR LTS #3 (L)	-58	NC
(I)	LTS#1 NUMBER BIT #1	-59	NC
(I)	LTS#1 NUMBER BIT #2	-60	NC
(I)	LTS#2 NUMBER BIT #1	-61	NC
(I)	LTS#2 NUMBER BIT #2	-62	NC
(I)	LTS#3 NUMBER BIT #1	-63	NC
(I)	LTS#3 NUMBER BIT #2	-64	NC
(I)	SDI #3	-65	NC
(I)	CROSS FILL ENABLE*	-66	NC
(I)	VER B ASCB*	-67 (22)	SIG GND
(I)	FUEL FLOW CONFIG ID0	-68	NC
(I)	FUEL FLOW CONFIG ID1	C121J1B-69	NC

Interconnect Information
Table 501 (cont)

Navigation Computer No. 2

IOB P	Function	Connector Pin	Connects To
(I)	FUEL FLOW CONFIG ID2	C121J1B-70 ------NC	
(I)	OPERATIONAL MODE ID0	-71 (22)-------------------	SIG GND
(I)	WOW*	-72 (22)-------------------	A/C WIRING
(I)	PERF COMP INSTLD*	-73 (22)-------------------	SIG GND
(I)	LTS#1 CONFIG	-74 ------NC	
(I)	LTS#1 CONFIG	-75 ------NC	
(I)	LTS#1 CONFIG	-76 ------NC	
(I)	LTS#2 CONFIG	-77 ------NC	
(I)	LTS#2 CONFIG	-78 ------NC	
(I)	LTS#2 CONFIG	-79 ------NC	
	RESERVED	-80	
	RESERVED	-81	
	RESERVED	-82	
(I)	DL CONNECTED*	-83 (22)-------------------	123J1-D
(I)	RADIO CONFIG ID0	-84 (22)-------------------	SIG GND
(I)	RADIO CONFIG ID1	-85 ------NC	
(I)	RADIO CONFIG ID2	-86 ------NC	
(I)	MAINT TEST ENABLE*	-87 (22)-------------------	APPX D
(I)	ILS*/MLS SELECT	-88 (22)-------------------	APPX D
(I)	LTS#3 CONFIG	-89 (22)-------------------	
(I)	LTS#3 CONFIG	-90 (22)-------------------	
(I)	LTS#3 CONFIG	-91 (22)-------------------	
(I)	OPERATIONAL MODE ID1	-92 (22)-------------------	SIG GND
(I)	INITIATED XMIT*	-93 ------NC	
(I)	INITIATED REC*	-94 ------NC	
(I)	DME SCAN TYP*	-95 (22)-------------------	SIG GND
(I)	RADIO BUS TYPE (OPEN/GND)	-96 ------NC	
(I)	SINGLE ASCB*	-97 ------NC	
(I)	SDI#1=LEFT	-98 ------NC	
(I)	SDI#2=RIGHT	-99 (22)-------------------	SIG GND
(I)	CDU VALID*	-100 (22)------------------	C120J1-i, 134J1A-76, C134J1A-76
(I)	TRUE REF SELECTED*	-101 (22)------------------	
(I)	AFIS INSTALLED*	-102 (22)------------------	
(I)	OVERSPEED PROTECTION DISABLE*	-103 ------NC	
(I)	RS 422 OFFSIDE VOR CONNECTED*	-104 ------NC	
(I)	NAV/DME MANUAL* TUNE SEC	-105 (22)------------------	SEC NAV/DME AUTO TUNE DISABLE SW
(I)	NAV/DME MANUAL* TUNE PRI	C121J1B-106 (22)------------------	PRI NAV/DME AUTO TUNE DISABLE SW

REF APPX C

Interconnect Information
Table 501 (cont)

Performance Computer No. 2

IOB P	Function	Connector Pin	Connects To
(P)	CHASSIS GROUND	C122J1A-1 (22)	A/C GND
(P)	SIGNAL GROUND	-2 (22)	A/C SIG GND
(P)	SERVO POWER (H)	-3 (NOTE 3)	28 V DC
(P)	SERVO POWER (H)	-4 (NOTE 3)	28 V DC
(P)	CLUTCH POWER (H)	-5 (NOTE 3)	28 V DC
(P)	CLUTCH POWER (H)	-6 (NOTE 3)	28 V DC
(P)	COMPUTER POWER (H)	-7 (NOTE 3)	28 V DC
(P)	COMPUTER POWER (H)	-8 (NOTE 3)	28 V DC
(P)	SERVO POWER (L)	-9 (NOTE 3)	A/C PWR GND
(P)	SERVO POWER (L)	-10 (NOTE 3)	A/C PWR GND
(P)	CLUTCH POWER (L)	-11 (NOTE 3)	A/C PWR GND
(P)	CLUTCH POWER (L)	-12 (NOTE 3)	A/C PWR GND
(P)	COMPUTER POWER (L)	-13 (NOTE 3)	A/C PWR GND
(P)	COMPUTER POWER (L)	-14 (NOTE 3)	A/C PWR GND
(O)	SERVO NO. 1 DRIVE (H)	-15 (20)	L128P1-B, 122J1A-15
(O)	SERVO NO. 1 DRIVE (L)	-16 (20)	L128P1-C, 122J1A-16
(O)	SERVO NO. 2 DRIVE (H)	-17 (20)	R128P1-C, 122J1A-17
(O)	SERVO NO. 2 DRIVE (L)	-18 (20)	R128P1-B, 122J1A-18
	RESERVED	-19	
	RESERVED	-20	
	RESERVED	-21	
	RESERVED	-22	
(O)	SERVO CLUTCH DRIVE NO. 1	-23 (20)	L128P1-E, 122J1A-23, 134J1B-30, C134J1B-30
(O)	SERVO CLUTCH DRIVE NO. 2	-24 (20)	R128P1-E, 122J1A-24, 134J1B-32, C134J1B-32
	RESERVED	-25	
	RESERVED	-26	
	SPARE	-27	
	SPARE	-28	
	SPARE	-29	
	SPARE	-30	
	SPARE	-31	
	SPARE	C122J1A-32	

Interconnect Information
Table 501 (cont)

Performance Computer No. 2

IOB P	Function	Connector Pin	Connects To
(B)	ASCB PRIMARY (H)	C122J1A-33 (22)	SEE SECT 3.3
(B)	PORT (L)	-34 (22)	
	SPARE	-35	
	RESERVED	-36	
	RESERVED	-37	
	SPARE	-38	
(B)	RS 232 RCVR (I/O)	-39 (22)	FLT TEST ONLY
(B)	RS 232 RTN (I/O)	-40 (22)	
(B)	RS 232 XMTR (I/O)	-41 (22)	
(B)	RS 232 RCVR (A/T)	-42 (22)	
(B)	RS 232 RTN (A/T)	-43 (22)	
(B)	RS 232 XMTR (A/T)	-44 (22)	
(B)	RS 232 RCVR (PERF)	-45 (22)	
(B)	RS 232 RTN (PERF)	-46 (22)	
(B)	RS 232 XMTR (PERF)	-47 (22)	
(I)	CROSS-SIDE A/T ENGAGE*	-48 (22)	122J1A-49
(O)	A/T ENGAGE (GND/OPEN)	-49 (22)	122J1A-48
(I)	MAINT TEST ENABLE*	-50 (22)	APPX D, REF APPX C
	RESERVED	-51	
	RESERVED	-52	
	RESERVED	-53	
(I)	GEAR DOWN*	-54 (22)	A/C GEAR DOWN DISCRETE, 122J1A-54 REF APPX C
	SPARE	-55	
	RESERVED	-56	
	RESERVED	C122J1A-57	

Interconnect Information
Table 501 (cont)

Performance Computer No. 2

IOB P	Function	Connector Pin	Connects To	
	SPARE	C122J1A-58		
(I)	LEFT/RIGHT* SELECT	-59 (22)	SIG GND	REF APPX C
(I)	ASCB VER A/B*	-60 (22)	SIG GND	
	RESERVED	-61		
(I)	LEFT BLEED SRC ON*	-62 (22)	A/C WIRING	
(I)	RIGHT BLEED SRC ON*	-63 (22)	A/C WIRING	
	SPARE	-64		
	RESERVED	-65		
(I)	ASCB SINGLE/DUAL*	-66 (22)	SIG GND	
	RESERVED	-67		
	RESERVED	-68		
	RESERVED	-69		
	RESERVED	-70		
	RESERVED	-71		
(I)	FLAPS IN MOTION	-72 (22) 5.1 KΩ	A/C WIRING	
(I)	LEFT AC PACK ON/OFF (28V/OPEN)	-73 (22)	A/C WIRING	
(I)	RIGHT AC PACK ON/OFF (28V/OPEN)	-74 (22)	A/C WIRING	
(I)	WOW*	-75 (22)	A/C WIRING	
	RESERVED	-76		
	RESERVED	-77		
	RESERVED	-78		
	RESERVED	C122J1A-79		

Interconnect Information
Table 501 (cont)

Performance Computer No. 2

IOB P	Function	Connector Pin	Connects To
	RESERVED	C122J1A-80	
(I)	A/T ENGAGE/DISENGAGE (OPEN/GND TOGGLE)	-81 (22)	APPX D/REF APPX C
	RESERVED	-82	
	RESERVED	-83	
(B)	RS422 XMTR (FT1-CLK) (H)	-84 (22)	FLT TEST ONLY
(B)	RS422 XMTR (FT1-CLK) (L)	-85 (22)	FLT TEST ONLY
	SHIELD GND		
(B)	RS422 XMTR (FT1-DTR) (H)	-86 (22)	FLT TEST ONLY
(B)	RS422 XMTR (FT1-DTR) (L)	-87 (22)	FLT TEST ONLY
	SHIELD GND		
(B)	RS422 XMTR (FT1-DATA) (H)	-88 (22)	FLT TEST ONLY
(B)	RS422 XMTR (FT1-DATA) (L)	-89 (22)	FLT TEST ONLY
	SHIELD GND		
(B)	RS422 RCVR (FT1-DATA) (H)	-90 (22)	FLT TEST ONLY
(B)	RS422 RCVR (FT1-DATA) (L)	-91 (22)	FLT TEST ONLY
(B)	RS422 RCVR (FT1-CTS) (H)	-92 (22)	FLT TEST ONLY
(B)	RS422 RCVR (FT1-CTS) (L)	-93 (22)	FLT TEST ONLY
	SPARE	-94	
	SPARE	-95	
	SPARE	-96	
(B)	RS422 XMTR (CDU-CLK) (H)	-97 (22)	C120J1-g
(B)	RS422 XMTR (CDU-CLK) (L)	-98 (22)	C120J1-h
	SHIELD GND		
(B)	RS422 XMTR (CDU-DTR) (H)	-99 (22)	C120J1-e
(B)	RS422 XMTR (CDU-DTR) (L)	-100 (22)	C120J1-f
	SHIELD GND		
(B)	RS422 XMTR (CDU-DATA) (H)	-101 (22)	C120J1-c
(B)	RS422 XMTR (CDU-DATA (L)	-102 (22)	C120J1-d
	SHIELD GND		
(B)	RS422 RCVR (CDU-DATA) (H)	-103 (22)	C120J1-Y
(B)	RS422 RCVR (CDU-DATA) (L)	-104 (22)	C120J1-Z
(B)	RS422 RCVR (CDU-CTS) (H)	-105 (22)	C120J1-a
(B)	RS422 RCVR (L) (CDU-CTS)	C122J1A-106 (22)	C120J1-b

Interconnect Information
Table 501 (cont)

Performance Computer No. 2

IOB P	Function	Connector Pin	Connects To
(P)	CHASSIS GND	C122J1B-1 (22)	A/C GND
(P)	SIGNAL GND	-2 (22)	A/C SIG GND
	SPARE	-3	
(B)	ASCB SECONDARY PORT (H)	-4 (22)	SEE SECT 3.3
(B)	ASCB SECONDARY PORT (L)	-5 (22)	SEE SECT 3.3
	SPARE	-6	
	RESERVED	-7	
	RESERVED	-8	
	SPARE	-9	
	RESERVED	-10	
	RESERVED	-11	
	RESERVED	-12	
	RESERVED	-13	
	RESERVED	-14	
	RESERVED	-15	
	RESERVED	-16	
	RESERVED	-17	
	RESERVED	-18	
	RESERVED	-19	
	RESERVED	-20	
	RESERVED	-21	
	RESERVED	-22	
	RESERVED	-23	
	RESERVED	-24	
	RESERVED	-25	
	RESERVED	-26	
	RESERVED	-27	
	RESERVED	-28	
	RESERVED	-29	
	RESERVED	-30	
	RESERVED	-31	
	RESERVED	-32	
	RESERVED	-33	
	RESERVED	-34	
	RESERVED	-35	
	RESERVED	-36	
	RESERVED	-37	
	RESERVED	-38	
	RESERVED	-39	
	RESERVED	C122J1B-40	

Interconnect Information
Table 501 (cont)

Performance Computer No. 2

IOB P	Function	Connector Pin	Connects To
	RESERVED	C122J1B-41	
	RESERVED	-42	
	RESERVED	-43	
	RESERVED	-44	
	RESERVED	-45	
(I)	PLA1 POS (C)	-46 (22)	A/C WIRING
(I)	PLA2 POS (C)	-47 (22)	A/C WIRING
	RESERVED	-48	
	RESERVED	-49	
	RESERVED	-50	
	RESERVED	-51	
	RESERVED	-52	
	RESERVED	-53	
	RESERVED	-54	
	RESERVED	-55	
	RESERVED	-56	
	RESERVED	-57	
(I)	SERVO NO. 1 TACH (L)	-58 (22)	L128P1-D, 122J1B-58
(I)	SERVO NO. 1 TACH (H)	-59 (22)	L128P1-A, 122J1B-59
(I)	SERVO NO. 2 TACH (L)	-60 (22)	R128P1-A, 122J1B-60
(I)	SERVO NO. 2 TACH (H)	-61 (22)	R128P1-D, 122J1B-61
	RESERVED	-62	
	RESERVED	-63	
	RESERVED	-64	
	RESERVED	-65	
(I)	PLA 1 POS (L)	-66 (22)	A/C WIRING
(I)	PLA 1 POS (H)	-67 (22)	A/C WIRING
(I)	PLA 2 POS (L)	-68 (22)	A/C WIRING
(I)	PLA 2 POS (H)	-69 (22)	A/C WIRING
	RESERVED	-70	
	RESERVED	-71	
	RESERVED	-72	
	RESERVED	-73	
	RESERVED	-74	
	RESERVED	-75	
	RESERVED	C122J1B-76	

Interconnect Information
Table 501 (cont)

Performance Computer No. 2

IOB P	Function	Connector Pin		Connects To
	RESERVED	C122J1B-77		
	RESERVED	-78		
	RESERVED	-79		
	RESERVED	-80		
	RESERVED	-81		
	RESERVED	-82		
	RESERVED	-83		
	RESERVED	-84		
	RESERVED	-85		
	RESERVED	-86		
	INTERLOCK #1	-87	(22)-------------------	APPX C
	INTERLOCK #2	-88	(22)-------------------	APPX C
	INTERLOCK #3	-89	(22)-------------------	APPX C
	INTERLOCK #4	-90	(22)-------------------	APPX C
(I)	A/T DISCONNECT (OPEN/GND)	-91	(22)-------------------	APPX D,APPX C
	RESERVED	-92		
	RESERVED	-93		
	RESERVED	-94		
	RESERVED	-95		
(I)	PLA REF (H)	-96	(22)-------------------	26 V AC 400 HZ
(I)	PLA REF (L)	-97	(22)-------------------	26 V AC 400 HZ
	RESERVED	-98		
(O)	A/T ENGAGED GND	-99	(22)-------------------	A/C WIRING ENGINE SYNC COMPUTER
	RESERVED	-100		
	RESERVED	-101		
	RESERVED	-102		
	RESERVED	-103		
	RESERVED	-104		
	RESERVED	-105		
(O)	PERF COMP INSTALLED	C122J1B-106	------NC	

Interconnect Information
Table 501 (cont)

Display Unit No. 6

IOB P	Function		Connector Pin	Connects To
(O)		(H)	C130J1-1 (22)	135J1-16
(I)	BRIGHTNESS POT	(W)	-14 (22)	135J1-17
(O)		(L)	-13 (22)	135J1-18
			SHIELD GND	
(O)		(H)	-2 NC	
(I)	WX DIMMING	(W)	-15 NC	
(O)		(L)	-3 NC	
	RESERVED		-4	
	RESERVED		-5	
	RESERVED		-6	
	RESERVED		-7	
	SPARE		-8	
	RESERVED		-9	
	RESERVED		-10	
	RESERVED		-11	
	RESERVED		-12	
	RESERVED		-16	
	RESERVED		-17	
	RESERVED		-18	
(B)	BUS 3	(H)	-19 (22)	SEE APPENDIX A, FIG. A-1
(B)		(L)	-20 (22)	
	SPARE		-21	
(I)	DU PWR DN*		-22 (22)	REV CONTROLLER P10-j, APPENDIX B & C
(I)	LIGHTING BUS	(H)	-23 (22)	5V OR 28 V DC LIGHTING BUS FOR INCLINOMETER LIGHTING 1.5 WATTS
(I)		(L)	-24 (22)	
	SPARE		-25	
(I)	REMOTE LT SENSOR	(H)	C130J1-26 (22)	130J1-26, 131J1-26, 132J1-26, 115J2-V, C115J2-V, C133J1-26, C131J1-26, REMOTE LT SENSOR HI

Interconnect Information
Table 501 (cont)

Display Unit No. 6

IOB P	Function	Connector Pin	Connects To
(I)	REMOTE LT SENSOR (L)	C130J1-27 (22)	130J1-27, 131J1-27, 132J1-27, 115J2-W, C115J2-W, 133J1-27, C131J1-27,
	REMOTE		LT SENSOR LO
(O)	DLS OUT (H)	-28 (22)	C131J1-29, C115J2-R
(O)	DLS OUT (L)	-41 (22)	C131J1-42, C115J2-S
		SHIELD GND	
(I)	ALS (H)	-29 (22)	C131J1-28, C115J2-T
(I)	ALS (L)	-42 (22)	C131J1-41, C115J2-U
	RESERVED	-30	
	RESERVED	-31	
	RESERVED	-32	
(B)	BUS 3 TERM (L)	-33 ------NC	
	RESERVED	-34	
(B)	BUS 2 (H)	-35 (22)	SEE APPENDIX A FIG. A-7
(B)	(L)	-36 (22)	SEE APPENDIX A FIG. A-7
(O)	DU VALID (GND/OPEN)	-37 ------NC	
(B)	BUS 1 (H)	-38 (22)	SEE APPENDIX A FIG. A-4
(B)	(L)	-39 (22)	SEE APPENDIX A FIG. A-4
(O)	REMOTE LT SENSOR GND	-40 ------NC	
(O)	REMOTE LT SENSOR PWR (H)	-53 ------NC	
(O)	(L)	-54 ------NC	
	RESERVED	-43	
	RESERVED	-44	
	RESERVED	-46	
	RESERVED	-47	
	RESERVED	-48	
(B)	BUS 2 TERM (L)	-49 ------NC	
	RESERVED	-50	
	RESERVED	-51	
(B)	BUS 1 TERM (L)	-52 ------NC	
	RESERVED	C130J1-55	

Interconnect Information
Table 501 (cont)

Display Unit No. 6

IOB P	Function		Connector Pin		Connects To
	RESERVED		C130J1-56		
	RESERVED		-57		
(B)	BUS 4	(H)	-58	(22)------------------------	C130J1-85
(B)	BUS 4 TERM	(L)	-45	(22)------------------------	C130J1-86
(B)	BUS 4	(L)	-59	------NC	
	RESERVED		-60		
(B)	WX BUS 2 TERM	(L)	-61	------NC	
	RESERVED		-62		
	RESERVED		-63		
(B)	WX BUS 1 TERM	(L)	-64	------NC	
(O)	DU OVERTEMP (GND/OPEN)		-65	(22)------------------------	134J1A-39, C134J1A-39
(O)	DU WRAPAROUND (ARINC 429)	(H)	-66	(22)------------------------	134J1B-77, C134J1B-77
(O)	DU WRAPAROUND (ARINC 429)	(L)	-79	(22)------------------------	134J1B-78, C134J1B-78
	RESERVED		-67		
	RESERVED		-68		
(B)	WX BUS 3	(H)	-69	------NC	
(B)	WX BUS 3	(L)	-70	------NC	
	RESERVED		-71		
	RESERVED		-72		
	SPARE		-73		
(B)	WX BUS 2	(H)	-74	------NC	
(B)	WX BUS 2	(L)	-75	------NC	
	SPARE		-76		
(B)	WX BUS 1	(H)	-77	------NC	
(B)	WX BUS 1	(L)	-78	------NC	
	RESERVED		-80		
	RESERVED		-81		
	RESERVED		-82		
(B)	WX BUS 3 TERM	(L)	-83	------NC	
	RESERVED		-84		
(O)	BURST OUT	(H)	-85	(22)------------------------	C130J1-58
(O)		(L)	-86	(22)------------------------	C130J1-45
(I)	PORT SEL A		-87	(22)------------------------	C131J1-87, A/C WIRING, APPX B & C
(I)	PORT SEL B		-88	(22)------------------------	C131J1-88, A/C WIRING, APPX B & C
	RESERVED		C130J1-89		

Interconnect Information
Table 501 (cont)

Display Unit No. 6

IOB P	Function	Connector Pin	Connects To
(I)	I.D. #1	C130J1-90 ------NC	REF APPENDIX C
(I)	I.D. #2	-91 ------NC	
	RESERVED	-92	
	RESERVED	-93	
(P)	CHASSIS GND	-94 (22)-------------------	A/C CHASSIS GND
	RESERVED	-95	
	RESERVED	-96	
	RESERVED	-97	
	RESERVED	-98	
(I)	SOFTWARE ENABLE*	-99 (22)-------------------	FLT TEST ONLY
(I)	SOFTWARE ENABLE*	-100 (22)------------------	FLT TEST ONLY
(P)	28 V DC	-101 (NOTE 3)--------------	A/C 28 V DC PWR
(P)	28 V DC	-102 (NOTE 3)--------------	
(P)	28 V DC	-103 (NOTE 3)--------------	
(P)	28 V DC RTN	-104 (NOTE 3)--------------	A/C 28 V DC PWR RTN
(P)	28 V DC RTN	-105 (NOTE 3)--------------	
(P)	28 V DC RTN	C130J1-106 (NOTE 3)--------------	

Interconnect Information
Table 501 (cont)

Display Unit No. 5

IOB P	Function		Connector Pin	Connects To
(O)		(H)	C131J1-1 (22)	135J1-13
(I)	BRIGHTNESS POT	(W)	-14 (22)	135J1-14
(O)		(L)	-13 (22)	135J1-15
			SHIELD GND	
(O)		(H)	-2 (22)	C61J2-F
(I)	WX DIMMING	(W)	-15 (22)	C61J2-G
(O)		(L)	-3 (22)	C61J2-H
			SHIELD GND	
	RESERVED		-4	
	RESERVED		-5	
	RESERVED		-6	
	RESERVED		-7	
	SPARE		-8	
	RESERVED		-9	
	RESERVED		-10	
	RESERVED		-11	
	RESERVED		-12	
	RESERVED		-16	
	RESERVED		-17	
	RESERVED		-18	
(B)	BUS 3	(H)	-19 (22)	SEE APPENDIX A, FIG. A-2
(B)		(L)	-20 (22)	
	SPARE		-21	
(I)	DU PWR DN*		-22 (22)	A/C WIRING, 134J1A-48, C134J1A-48 APPENDIX B & C
(I)	LIGHTING BUS	(H)	-23 ------NC	
(I)		(L)	-24 ------NC	
	SPARE		-25	
(I)	REMOTE LT SENSOR	(H)	C131J1-26 (22)	130J1-26, 131J1-26, 132J1-26, 115J2-V, C115J2-V, 133J1-26, C130J1-26, REMOTE LT SENSOR HI

Interconnect Information
Table 501 (cont)

Display Unit No. 5

IOB P	Function	Connector Pin		Connects To
(I)	REMOTE LT SENSOR (L)	C131J1-27	(22)	130J1-27, 131J1-27, 132J1-27, 115J2-W, C115J2-W, 133J1-27, C130J1-27, REMOTE LT SENSOR LO
(O)	DLS OUT (H)	-28	(22)	C130J1-29, C115J2-T
(O)	(L)	-41	(22)	C130J1-42, C115J2-U
		SHIELD GND		
(I)	ALS (L)	-29	(22)	C130J1-28, C115J2-R
(I)	(L)	-42	(22)	C130J1-41, C115J2-S
	RESERVED	-30		
	RESERVED	-31		
	RESERVED	-32		
(B)	BUS 3 TERM (L)	-33		NC
	RESERVED	-34		
(B)	BUS 2 (H)	-35	(22)	SEE APPENDIX A FIG. A-8
(B)	(L)	-36	(22)	SEE APPENDIX A FIG. A-8
(O)	DU VALID (GND/OPEN)	-37		NC
(B)	BUS 1 (H)	-38	(22)	SEE APPENDIX A FIG. A-5
(B)	(L)	-39	(22)	SEE APPENDIX A FIG. A-5
(O)	REMOTE LT SENSOR GND	-40		NC
(O)	REMOTE LT SENSOR PWR (H)	-53		NC
(O)	(L)	-54		NC
	RESERVED	-43		
	RESERVED	-44		
	RESERVED	-46		
	RESERVED	-47		
	RESERVED	-48		
(B)	BUS 2 TERM (L)	-49		NC
	RESERVED	-50		
	RESERVED	-51		
(B)	BUS 1 TERM (L)	-52		NC
	RESERVED	-55		
	RESERVED	C131J1-56		

Interconnect Information
Table 501 (cont)

Display Unit No. 5

IOB P	Function		Connector Pin		Connects To
	RESERVED		C131J1-57		
(B)	BUS 4	(H)	-58	(22)	C131J1-85
(B)	BUS 4 TERM	(L)	-45	(22)	C131J1-86
(B)	BUS 4	(L)	-59	NC	
	RESERVED		-60		
(B)	WX BUS 2 TERM	(L)	-61	NC	
	RESERVED		-62		
	RESERVED		-63		
(B)	WX BUS 1 TERM	(L)	-64	NC	
(O)	DU OVERTEMP (GND/OPEN)		-65	(22)	134J1A-38, C134J1A-38
(O)	DU WRAPAROUND (ARINC 429)	(H)	-66	(22)	134J1B-48, C134J1B-48
(O)	DU WRAPAROUND (ARINC 429)	(L)	-79	(22)	134J1B-49, C134J1B-49
	RESERVED		-67		
	RESERVED		-68		
(B)	WX 3	(H)	-69	(22)	SEE APPENDIX A FIG. A-9
(B)		(L)	-70	(22)	
	RESERVED		-71		
	RESERVED		-72		
	SPARE		-73		
(B)	WX 2	(H)	-74	(22)	SEE APPENDIX A FIG. A-6
(B)		(L)	-75	(22)	
	SPARE		-76		
(B)	WX 1	(H)	-77	(22)	SEE APPENDIX A FIG. A-3
(B)		(L)	-78	(22)	
	RESERVED		-80		
	RESERVED		-81		
	RESERVED		-82		
(B)	WX BUS 3 TERM	(L)	-83	NC	
	RESERVED		-84		
(O)	BURST OUT	(H)	-85	(22)	C131J1-58
(O)		(L)	-86	(22)	C131J1-45
(I)	PORT SEL A		-87	(22)	C130J1-87, A/C WIRING, APPX B & C
(I)	PORT SEL B		-88	(22)	C130J1-88, A/C WIRING, APPX B & C
	RESERVED		C131J1-89		

Interconnect Information
Table 501 (cont)

Display Unit No. 5

IOB P	Function	Connector Pin	Connects To
(I)	I.D. #1	C131J1-90 (22)-------------------	GND } REF APPENDIX C
(I)	I.D. #2	-91 ------NC	
	RESERVED	-92	
	RESERVED	-93	
(P)	CHASSIS GND	-94 (22)-------------------	A/C CHASSIS GND
	RESERVED	-95	
	RESERVED	-96	
	RESERVED	-97	
	RESERVED	-98	
(I)	SOFTWARE ENABLE*	-99 (22)-------------------	FLT TEST ONLY
(I)	SOFTWARE ENABLE*	-100 (22)------------------	FLT TEST ONLY
(P)	28 V DC	-101 (NOTE 3)--------------	A/C 28 V DC PWR
(P)	28 V DC	-102 (NOTE 3)--------------	
(P)	28 V DC	-103 (NOTE 3)--------------	
(P)	28 V DC RTN	-104 (NOTE 3)--------------	A/C 28 V DC PWR RTN
(P)	28 V DC RTN	-105 (NOTE 3)--------------	
(P)	28 V DC RTN	C131J1-106 (NOTE 3)--------------	

Interconnect Information
Table 501 (cont)

Fault Warning Computer No. 2

IOB P	Function	Connector Pin	Connects To	
(P)	28 V DC POWER	C134J1A-1 (NOTE 3)	A/C 28 V DC POWER	
(P)	28 V DC POWER	-2 (NOTE 3)	A/C 28 V DC POWER	
(P)	28 V DC POWER	-3 (NOTE 3)	A/C 28 V DC POWER	
	RESERVED	-4		
(P)	28 V DC PWR GND	-5 (NOTE 3)	A/C 28 V DC POWER GND	
(P)	28 V DC PWR GND	-6 (NOTE 3)	A/C 28 V DC POWER GND	
(P)	28 V DC PWR GND	-7 (NOTE 3)	A/C 28 V DC POWER GND	
	RESERVED	-8		
(P)	SIGNAL GND	-9 (22)	A/C SIGNAL GND	
(P)	SIGNAL GND	-10 (22)	A/C SIGNAL GND	
(P)	SIGNAL GND	-11 (22)	A/C SIGNAL GND	
(I)	KEYING PIN NO. 1	-12 (22)	GND	REF APPX C
(I)	KEYING PIN NO. 2	-13 ------NC		REF APPX C
(I)	KEYING PIN NO. 3	-14 (22)	GND	REF APPX C
(I)	KEYING PIN NO. 4	-15 ------NC		REF APPX C
(I)	KEYING PIN NO. 5	-16 (22)	GND	REF APPX C
	RESERVED	-17		REF APPX C
	RESERVED	-18		REF APPX C
(O)	FGC MAINT TEST (GND/OPEN)	-19 (22)	11J1-58, 11J2-58, 134J1A-19	REF APPX C
	SPARE	-20		REF APPX C
(O)	AP OFF ANNUN (GND/OPEN)	-21 (22)	APPENDIX D	REF APPX C
	RESERVED	-22		REF APPX C
(I)	WARN RESET*	-23 (22)	APPX D	REF APPX C
(I)	CAUTION RESET*	-24 (22)	APPX D	REF APPX C
(I)	VOICE RECORDER FAIL (OPEN/GND)	-25 (22)	A/C WIRING	REF APPX C
(I)	STEER BY WIRE FAIL*	-26 (22)	A/C WIRING	REF APPX C
(I)	AHRS COOL FAIL*	-27 (22)	E170J1B-E1	REF APPX C
(I)	CAT II BENDIX ILS INSTLLED*	-28 (22)	APPX C	REF APPX C
(I)	DU 3 VALID*	-29 (22)	132J1-37, 134J1A-29	REF APPX C
(I)	DU 4 VALID*	-30 (22)	132J1-37, 134J1A-30	REF APPX C
	RESERVED	-31		REF APPX C
(I)	SPARE	-32 ------NC		REF APPX C
(I)	SPARE	-33 ------NC		REF APPX C
(I)	DU1 OVERTEMP*	-34 (22)	130J1-65, 134J1A-34	REF APPX C
(I)	DU2 OVERTEMP*	C134J1A-35 (22)	131J1-65, 134J1A-35	REF APPX C

Interconnect Information
Table 501 (cont)

Fault Warning Computer No. 2

IOB P	Function	Connector Pin	Connects To
(I)	DU3 OVERTEMP*	C134J1A-36 (22)-------------------	132J1-65, 134J1A-36
(I)	DU4 OVERTEMP*	-37 (22)-------------------	133J1-65, 134J1A-37
(I)	DU5 OVERTEMP*	-38 (22)-------------------	C131J1-65, 134J1A-38
(I)	DU6 OVERTEMP*	-39 (22)-------------------	C130J1-65, 134J1A-39
	RESERVED	-40	
(I)	SG1 REV*	-41 (22)-------------------	134J1A-41, A/C WIRING, 65J1A-60, C65J1A-60, E65J1A-60, 65J1A-59, APPX B AND C
(I)	SG2 REV*	-42 (22)-------------------	134J1A-42, A/C WIRING, 65J1A-61, C65J1A-61, E65J1A-61, C65J1A-59, APPX B AND C
(I)	SG3 REV*	-43 (22)-------------------	134J1A-43, A/C WIRING, 65J1A-62, C65J1A-62, E65J1A-62, E65J1A-59, APPX B AND C
(I)	DU1 REV*	-44 (22)-------------------	134J1A-44, A/C WIRING, 65J1A-63, C65J1A-63, E65J1A-63, APPX B AND C
(I)	DU2 REV*	C134J1A-45 (22)-------------------	134J1A-45, A/C WIRING, 131J1-22, APPX B AND C

Interconnect Information
Table 501 (cont)

Fault Warning Computer No. 2

IOB P	Function	Connector Pin	Connects To
(I)	DU3 REV*	C134J1A-46 (22)	134J1A-46, A/C WIRING, 65J1A-64, C65J1A-64, E65J1A-64, 132J1-22, APPX B AND C
(I)	DU4 REV*	-47 (22)	134J1A-47, A/C WIRING, 65J1A-65, C65J1A-65, E65J1A-65, 133J1-22, APPX B AND C
(I)	DU5 REV*	-48 (22)	134J1A-48, C131J1-22, A/C WIRING APPX B AND C
(I)	DU6 REV*	-49 (22)	134J1A-49, A/C WIRING, 65J1A-66, C65J1A-66, E65J1A-66, APPX B AND C
(I)	CAT II MLS INSTALLED*	-50 (22)	APPX C
(I)	SG1 OVERTEMP*	-51 (22)	134J1A-51, 65J1B-52
(I)	SG2 OVERTEMP*	-52 (22)	134J1A-52, C65J1B-52
(I)	SG3 OVERTEMP*	-53 (22)	134J1A-53, E65J1B-52
	RESERVED	-54	
	SPARE	-55	
(P)	CHASSIS GND NO. 1	-56 (22)	A/C CHASSIS GND
(P)	CHASSIS GND NO. 2	-57 (22)	A/C CHASSIS GND
(P)	CHASSIS GND NO. 3	C134J1A-58 (22)	A/C CHASSIS GND

Interconnect Information
Table 501 (cont)

Fault Warning Computer No. 2

IOB P	Function	Connector Pin	Connects To	
	RESERVED	C134J1A-59		
	RESERVED	-60		
(B)	SYS ASCB PRIMARY BUS (H)	-61 (22)	REF. SECT. 3.3	
(B)	SYS ASCB PRIMARY BUS (L)	-62 (22)	REF. SECT. 3.3	
(I)	WOW*	-63 (22)	A/C WOW	
	RESERVED	-64		
(I)	FWC ID 0	-65 ------NC		
(I)	FWC ID 0	-66 (22)	SIG GND	
(I)	GEAR DOWN*	-67 (22)	A/C GEAR DOWN DISCRETE	
(I)	MEMORY ERASE BUTTON*	-68 (22)	APPX D	
(I)	WINDSHEAR AVAILABLE*	-69 (22)	APPX J	
(I)	GND SPOILER NOT ARMED (GND/OPEN)	-70 (22)	A/C WIRING	
(I)	EMER BATT 1 FAIL (OPEN/GND)	-71 (22)	A/C WIRING	
(I)	EMER BATT 2 FAIL (OPEN/GND)	-72 (22)	A/C WIRING	APPX C
(I)	AOA HEAT 1 FAIL (OPEN/GND)	-73 (22)	A/C WIRING	
(I)	AOA HEAT 2 FAIL (OPEN/GND)	-74 (22)	A/C WIRING	
(I)	CDU 1 VALID*	-75 (22)	120J1-i, 134J1A-75, 121J1B-100	
(I)	CDU 2 VALID*	-76 (22)	C120J1-i, 134J1A-75, C121J1B-100	
(I)	SPARE CDU VALID*	-77 (22)	APPX G	
(I)	SPARE FMS ACTIVE 2*	-78 (22)	APPX G	
(I)	SPARE FMS ACTIVE 1*	-79 (22)	APPX G	
(I)	AP OFF RESET	-80 (22)	APPX D	
(I)	MANUAL EXCEEDANCE RECORD*	-81 (22)	APPX D	
(I)	CAT II NAV INSTALLED*	-82 (22)	APPX C	
(I)	AUTOTHROTTLE DISCONNECT (OPEN/GND)	C134J1A-83 (22)	APPX D	

Interconnect Information
Table 501 (cont)

Fault Warning Computer No. 2

IOB P	Function	Connector Pin	Connects To	
(I)	BRAKE OVHT (BTMS)* (GND/OPEN)	C134J1A-84 (22)	APPX C 134J1A-84	
(I)	MAINTENANCE TEST ENABLE*	-85 (22)	APPX D	
(I)	FWC DATA DOWNLOAD INITIATE*	-86 (22)	APPX D	
(I)	SPARE NZ VALID*	-87 (22)	APPX G	
	RESERVED	-88		
	RESERVED	-89		
(I)	SPARE FMS INSTALLED*	-90 (22)	APPX G	
(O)	AUTOTHROTTLE OFF ANNUN (GND/OPEN)	-91 (22)	APPX D	
(O)	FWC VALID (GND/OPEN)	-92	NC	
(O)	SPARE	-93	NC	
(O)	HEADING MISCOMPARE (GND/OPEN)	-94 (22)	STANDBY RMI'S	
(O)	RAD ALT TEST (GND/OPEN)	-95 (22)	C20J1-T	
(O)	B.C. TEST REQUEST (GND/OPEN)	-96 (22)	65J1B-2, C65J1B-2, E65J1B-2	
(I)	BUS CON VALID NO. 1*	-97 (22)	65J1A-13, 134J1A-97	
(I)	BUS CON VALID NO. 2*	-98 (22)	C65J1A-13, 134J1A-98	
(I)	BUS CON VALID NO. 3*	-99 (22)	E65J1A-13, 134J1A-99	
(I)	SYSTEM TEST 1	-100 (22)	TBD	REF APPX C
(I)	SYSTEM TEST 2	-101 (22)	TBD	
(I)	SYSTEM TEST 3	-102 (22)	TBD	
(O)	EMER CHECKLIST SEL (GND/OPEN)	-103 (22)	115J1-p, C115J1-p, 134J1A-103	
(O)	CHECKLIST INSTALLED (GND/OPEN)	-104 (22)	115J1-q, C115J1-q, 134J1A-104	
(I)	SCROLL UP*	-105 (22)	APPX D	
(I)	SCROLL DN*	C134J1A-106 (22)	APPX D	

Interconnect Information
Table 501 (cont)

Fault Warning Computer No. 2

IOB P	Function	Connector Pin	Connects To	
(I)	L. FUEL VALVE OPEN (28V/OPEN)	C134J1B-1 (22)--------------------	A/C WIRING	REF APPX C
(I)	R. FUEL VALVE OPEN (28V/OPEN)	-2 (22)--------------------	A/C WIRING	
(I)	L. FUEL VALVE CLOSED (28V/OPEN)	-3 (22)--------------------	A/C WIRING	
(I)	R. FUEL VALVE CLOSED (28V/OPEN)	-4 (22)--------------------	A/C WIRING	
(I)	COMBINED HYD. VALVE OPEN (28V/OPEN)	-5 (22)--------------------	A/C WIRING	
(I)	FLT. HYD VALVE OPEN (28V/OPEN)	-6 (22)--------------------	A/C WIRING	
(I)	COMBINED HYD. VALVE CLOSED (28V/OPEN)	-7 (22)--------------------	A/C WIRING	
(I)	FLT. HYD. VALVE CLOSED (28V/OPEN)	-8 (22)--------------------	A/C WIRING	
(I)	DC EXT PWR (28V/OPEN)	-9 (22)--------------------	A/C WIRING	
(I)	ACFT CONFIGURATION (28V/OPEN)	-10 (22)-------------------	A/C WIRING	
	RESERVED	-11		
(I)	L. OIL FILT B PASS (OPEN/28V)	-12 (22)-------------------	A/C WIRING	
(I)	R. OIL FILT B PASS (OPEN/28V)	-13 (22)-------------------	A/C WIRING	
(I)	FLIGHT RECORDER FAIL (OPEN/28V)	-14 (22)-------------------	A/C WIRING	
	RESERVED	-15		
(I)	INHIBIT SELECT (28V/OPEN)	-16 (22)-------------------	A/C WIRING	
(I)	L COWL PRESS LOW (28V/OPEN)	-17 (22)-------------------	A/C WIRING	
(I)	R COWL PRESS LOW (28V/OPEN)	-18 (22)-------------------	A/C WIRING	
(I)	VHF COM 1 FAIL (OPEN/28V)	-19 (22)-------------------	A/C WIRING	
(I)	VHF COM 2 FAIL (OPEN/28V)	-20 (22)-------------------	A/C WIRING	
(I)	VHF COM 3 FAIL (OPEN/28V)	-21 (22)-------------------	A/C WIRING	
(I)	L WING TEMP LOW (OPEN/28V)	-22 (22)-------------------	A/C WIRING	
(I)	R WING TEMP LOW (OPEN/28V)	-23 (22)-------------------	A/C WIRING	
(I)	AUTOPILOT CLUTCH (28V/OPEN)	-24 (22)-------------------	APPENDIX D	
(I)	TRIM CLUTCH (28V/OPEN)	-25 (22)-------------------	APPENDIX D	
(I)	RUDDER ACTUATOR (28V/OPEN)	-26 (22)-------------------	14P1-A, 10J1A-58, C10J1A-58, 134J1B-26 APPENDIX D	
	RESERVED	C134J1B-27		

Interconnect Information
Table 501 (cont)

Fault Warning Computer No. 2

IOB P	Function	Connector Pin	Connects To	
(I)	APU ALTERNATOR OFF (28V/OPEN)	C134J1B-28 (22)	A/C WIRING	APPX C
	RESERVED	-29		
(I)	AUTOTHROTTLE CLUTCH NO. 1 (28V/OPEN)	-30 (20)	122J1A-23, C122J1A-23, L128P1-E, 134J1B-30	
	RESERVED	-31		
(I)	AUTOTHROTTLE CLUTCH NO. 2 (28V/OPEN)	-32 (20)	122J1A-24, C122J1A-24, R128P1-E, C134J1B-32	
	SPARE	-33		
(B)	DU 1 WRAPAROUND (H)	-34 (22)	130J1-66, 134J1B-34	
(B)	DU 1 WRAPAROUND (L)	-35 (22)	130J1-79, 134J1B-35	
	SPARE	-36		
	SPARE	-37		
	SPARE	-38		
(B)	DU 2 WRAPAROUND (H)	-39 (22)	131J1-66, 134J1B-39	
(B)	DU 2 WRAPAROUND (L)	-40 (22)	131J1-79, 134J1B-40	
(B)	DU 3 WRAPAROUND (H)	-41 (22)	132J1-66, 134J1B-41	
(B)	DU 3 WRAPAROUND (L)	-42 (22)	132J1-79, 134J1B-42	
(B)	DU 4 WRAPAROUND (H)	-43 (22)	133J1-66, 134J1B-43	
(B)	DU 4 WRAPAROUND (L)	-44 (22)	133J1-79, 134J1B-44	
	SPARE	-45		
	SPARE	-46		
	SPARE	-47		
(B)	DU 5 WRAPAROUND (H)	-48 (22)	C131J1-66, 134J1B-48	
(B)	DU 5 WRAPAROUND (L)	-49 (22)	C131J1-79, 134J1B-49	
(B)	IRS #2 HIGH SPEED (H) ARINC 429	-50 (22)	C170J1B-H14	
(B)	IRS #2 HIGH SPEED(L) ARINC 429	C134J1B-51 (22)	C170J1B-H15	

Interconnect Information
Table 501 (cont)

Fault Warning Computer No. 2

IOB P	Function		Connector Pin		Connects To
	RESERVED		C134J1B-52		
	RESERVED		-53		
	RESERVED		-54		
	RESERVED		-55		
	RESERVED		-56		
	RESERVED		-57		
	SPARE		-58		
	SPARE		-59		
	SPARE		-60		
(B)	SYS ASCB	(H)	-61	(22)	REF. SECT. 3.3
(B)	SECONDARY BUS	(L)	-62	(22)	
	SPARE		-63		
	SPARE		-64		
	SPARE		-65		
	SPARE		-66		
	SPARE		-67		
	RESERVED		-68		
	RESERVED		-69		
	RESERVED		-70		
	RESERVED		-71		
	RESERVED		-72		
	RESERVED		-73		
	RESERVED		-74		
	RESERVED		-75		
	RESERVED		-76		
(B)	DU 6 WRAPAROUND	(H)	-77	(22)	C130J1-66, 134J1B-77
(B)	DU 6 WRAPAROUND	(L)	-78	(22)	C130J1-79, 134J1B-78
(B)	IRS #1 HIGH SPEED ARINC 429	(H)	-79	(22)	170J1B-H14
(B)	IRS #1 HIGH SPEED ARINC 429	(L)	-80	(22)	170J1B-H15
(B)	IRS #3 HIGH SPEED ARINC 429	(H)	-81	(22)	E170J1B-H14
(B)	IRS #3 HIGH SPEED ARINC 429	(L)	-82	(22)	E170J1B-H15
	RESERVED		-83		
	RESERVED		-84		
	RESERVED		-85		
	RESERVED		C134J1B-86		

Interconnect Information
Table 501 (cont)

Fault Warning Computer No. 2

IOB P	Function	Connector Pin	Connects To	
(O)	RED AURAL (28V/OPEN)	C134J1B-87 (22)	A/C WIRING	REF APPX C
(O)	AMBER AURAL (28V/OPEN)	-88 (22)	A/C WIRING	
(O)	BLUE AURAL (28V/OPEN)	-89 (22)	A/C WIRING	
(O)	INHIBIT OUTPUT (28V/OPEN)	-90 (22)	A/C WIRING	
(O)	A/P DISC TEST (28V/OPEN)	-91 (22)	A/C WIRING	
(O)	GEAR HORN INHIBIT (28V/OPEN)	-92 (22)	A/C WIRING	
(O)	EICAS FAIL (OPEN/28V)	-93 (22)	A/C WIRING	
(O)	DOWNLOAD IN PROGRESS (28V/OPEN)	-94 (22)	APPX D	
(O)	ERASE IN PROGRESS (28V/OPEN)	-95 (22)	APPX D	
(O)	AUTOTHROTTLE OFF HORN (28V/OPEN)	-96 (22)	APPX D	
(O)	AP OFF HORN (28V/OPEN)	-97 (22)	APPX D	
(O)	MASTER WARNING ANNUN (28V/OPEN)	-98 (22)	APPX D	
(O)	MASTER CAUTION ANNUN (28V/OPEN)	-99 (22)	APPX D	
(O)	VALT ALERT HORN	-100 (22)	A/C WIRING, 134J1B-100	
(O)	DATA DN LOAD RS232 TXD	-101 (22)	APPX D	
(O)	DATA DN LOAD RS232 RXD	-102 (22)	APPX D	
(O)	DATA DN LOAD RS232 RTS	-103	NC	
(O)	DATA DN LOAD RS232 CTS	-104	NC	
(O)	DATA DN LOAD RS232 DTR	-105	NC	
	SPARE	C134J1B-106		

Interconnect Information
Table 501 (cont)

GLOBAL POSITIONING SYSTEM SENSOR UNIT No. 2 (OPTIONAL)

IOB P	Function	Connector Pin	Connects To
(O)	GPSSU FAULT	C149J1-1 (22)	APPX C
(B)	DADC1 429 INPUT (H)	-6 (22)	DADC #1
(B)	DADC1 429 INPUT (L)	-7 (22)	DADC #1
	SHIELD GND		SHIELD GND
(O)	INPUT DISCRETE RETURN	-8 ----NC	
(O)	TIME MARK #2 (H)	-9 ----NC	
(O)	TIME MARK #2 (L)	-22 ----NC	
(B)	DADC2 429 INPUT (H)	-10 (22)	DADC #2
(B)	DADC2 429 INPUT (L)	-11 (22)	DADC #2
	SHIELD GND		SHIELD GND
(O)	TIME MARK #3 (H)	-13 ----NC	
(O)	TIME MARK #3 (L)	-14 ----NC	
(B)	IRS1/FMS1 429 INPUT (H)	-18 (22)	C121J1A-50
(B)	IRS1/FMS1 429 INPUT (L)	-37 (22)	C121J1A-51
	SHIELD GND		SHIELD GND
(O)	TIME MARK #1 (H)	-19 ----NC	
(O)	TIME MARK #1 (L)	-20 ----NC	
(I)	429 OUTPUT HS/LS SELECT*	-21 ----NC	APPX C
(B)	429 OUTPUT #2 (H)	-24 (22)	121J1A-23
(B)	429 OUTPUT #2 (L)	-25 (22)	121J1A-24
	SHIELD GND		SHIELD GND
(B)	IRS2/FMS2 429 INPUT (H)	-26 (22)	121J1A-50
(B)	IRS2/FMS2 429 INPUT (L)	-27 (22)	121J1A-51
	SHIELD GND		SHIELD GND
(B)	429 OUTPUT #3 (H)	-29 (22)	APPX G
(B)	429 OUTPUT #3 (L)	-30 (22)	APPX G
	SHIELD GND		SHIELD GND
(P)	CHASSIS GROUND	-33 (22)	A/C CHASSIS GND
(P)	+28V POWER RETURN	-34 (22)	A/C POWER GND
(P)	+28V DC POWER	-35 (22)	A/C +28V DC POWER
(B)	429 OUTPUT #1 (H)	-38 (22)	C121J1A-26
(B)	429 OUTPUT #1 (L)	-39 (22)	C121J1A-27
	SHIELD GND		SHIELD GND
(I)	DADC 419/429 SELECT*	C149J1-40 ----NC	APPX C

Interconnect Information
Table 501 (cont)

INERTIAL REFERENCE UNIT No. 2

IOB P	Function	Connector Pin	Connects To
(I)	IDENT RES R1	C170J1A-A1 ----NC	
(I)	SDI/4	-A7 ----NC	
(I)	IDENT RES R2	-B1 ----NC	
(I)	IDENT RES R3	-C1 ----NC	
(I)	IDENT RES COM	-C2 ----NC	
(I)	IDENT RES R4	-D1 ----NC	
(B)	GPS2 429 INPUT #1 (H)	-E2 ----NC	
(B)	GPS2 429 INPUT #1 (L)	-E3 ----NC	
(B)	GPS1 429 INPUT #2 (H)	-E4 ----NC	
(B)	GPS1 429 INPUT #2 (L)	-E5 ----NC	
(O)	CTVAL 1	-E6 ----NC	
(O)	CTVAL 2	-E7 ----MC	
(O)	AC FAIL LOGIC OUT	-E10 ----NC	
(I)	AC TO BATT XFER	-E11 ----NC	
(I)	ASCB FORMAT SEL	-E13 (22)-----------------	C170J1B-A1
(I)	37 WORD FORMAT	-E14 (22)-----------------	C170J1B-A1
(I)	GPS2 TIME MARK (1Hz) #1 (H)	-F4 ----NC	
(I)	GPS2 TIME MARK (1Hz) #1 (L)	-F5 ----NC	
(I)	GPS1 TIME MARK (1Hz) #2 (H)	-G2 ----NC	
(I)	GPS1 TIME MARK (1Hz) #2 (L)	-G3 ----NC	
(O)	CHARGER INHIBIT (28V/0)	C170J1A-G9 (22)------------------	IRU BATTERY

Interconnect Information
Table 501 (cont)

INERTIAL REFERENCE UNIT No. 2

IOB P	Function	Connector Pin	Connects To
(B)	SYS ASCB PRI (H)	C170J1A-H1 (22)	REF SECT 3.3
(B)	SYS ASCB PRI (L)	-H2 (22)	
(B)	RS 232 DATA XMTR	-H3 (22)	TEST CONNECTOR
(B)	RS 232 DATA RCVR	-H4 (22)	TEST CONNECTOR
(B)	RS 232 COMMON	-H7 (22)	TEST CONNECTOR
		SHIELD GND	SHIELD GND
(B)	RS 232 DTR	-H5 ----NC	
(B)	RS 232 CTS	-H6 ----NC	
(I)	MEM ACCESS WR ENA (GND/O)	-H10 (22)	FLT TEST ONLY
(I)	SDI/3	-J9 ----NC	
(B)	SYS ASCB SEC (H)	-K1 (22)	REF SECT 3.3
(B)	SYS ASCB SEC (L)	-K2 (22)	
(I)	BITE WRITE INHIBIT (GND/O)	C170J1A-K6 ----NC	

Interconnect Information
Table 501 (cont)

INERTIAL REFERENCE UNIT No. 2

IOB P	Function	Connector Pin	Connects To
(O)	LOGIC GROUND	C170J1B-A1 (22)	172J3-U
(I)	IRU ORIENT/1	-A2 ----NC	
(I)	IRU ORIENT/2	-A3 (22)	C170J1B-A1
(I)	SDI/2	-A7 ----NC	
(B)	FMS2 429 INPUT (H)	-A8 (22)	C121J1A-62
(B)	GEN BUS PRIMARY (L)	-A9 (22)	C121J1A-49
		SHIELD GND	SHIELD GND
(I)	REMOTE TEST	-A10 (22)	172J3-W
(B)	ISDU/NDU 429 INPUT (H)	-A13 (22)	171J3-24 (OPT) 198J3-24 (OPT)
(B)	ISDU/NDU 429 INPUT (L)	-A14 (22)	171J3-25 (OPT) 198J3-25 (OPT)
		SHIELD GND	SHIELD GND
(O)	BATT FAIL ANNUN (GND/O)	-A15 (22)	DIM & TEST PANEL
(B)	FMS1 429 INPUT (H)	-C5 (22)	121J1B-3
(B)	GEN BUS SECONDARY (L)	-C6 (22)	121J1B-15
		SHIELD GND	SHIELD GND
(O)	FAULT ANNUN (GND/O)	-D2 (22)	DIM & TEST PANEL
(O)	ATT ANNUN (GND/O)	-D3 ----NC	
(O)	NO AIR ANNUN (GND/O)	-E1 ----NC	
(O)	ON DC ANNUN (GND/O)	-E2 ----NC	
(O)	NAV READY ANNUN (GND/O)	-E3 ----NC	
(B)	ARINC 429 OUT #2 (H)	-E5 (22)	65J1B-48
(B)	ARINC 429 OUT #2 (L)	-E6 (22)	65J1B-49
		SHIELD GND	SHIELD GND
(I)	MODE DISCRETE/1 (GND/O)	-F1 (22)	172J3-e
(I)	MODE DISCRETE/2 (GND/O)	-F2 (22)	172J3-f
(I)	ALIGN ANNUN (GND/O)	-F3 (22)	DIM & TEST PANEL
(B)	ARINC 429 OUT #4 (H)	-F14 (22)	E65J1B-48 59J1-K
(B)	ARINC 429 OUT #4 (L)	C170J1B-F15 (22)	E65J1B-49 59J1-L
		SHIELD GND	SHIELD GND

Interconnect Information
Table 501 (cont)

INERTIAL REFERENCE UNIT No. 2

IOB P	Function	Connector Pin	Connects To
(O)	IRU VALID	C170J1B-G1 ----NC	
(B)	ARINC 429 OUT #1 (H)	-G7 (22)	171J3-26 (OPT) 198J3-26 (OPT)
(B)	ARINC 429 OUT #1 (L)	-G8 (22)	171J3-27 (OPT) 198J3-27 (OPT)
		SHIELD GND	SHIELD GND
(B)	ARINC 429 OUT #5 (H)	-G14 (22)	DDRMI #2
(B)	ARINC 429 OUT #5 (L)	-G15 (22)	DDRMI #2
		SHIELD GND	SHIELD GND
(B)	ARINC 429 OUT #6 (H)	-H14 (22)	134J1B-50 C134J1B-50
(B)	ARINC 429 OUT #6 (L)	-H15 (22)	134J1B-51 C134J1B-51
		SHIELD GND	SHIELD GND
(I)	DADC 429/575 SEL (GND/O)	-J6 (22)	C170J1B-A1
(I)	SDI/1 (GND/O)	-J9 (22)	C170J1B-A1
(B)	DADC 429 INPUT (H)	-J10 (22)	C9J1B-30
(B)	SECONDARY DATA BUS (L)	-J11 (22)	C9J1B-31
		SHIELD GND	SHIELD GND
(O)	ON BATT ANNUN (GND/O)	-J15 (22)	DIM & TEST PANEL
(B)	DADC 429 INPUT (H)	-K4 (22)	9J1B-30
(B)	PRIMARY DATA BUS (L)	-K5 (22)	9J1B-31
		SHIELD GND	SHIELD GND
(B)	ARINC 429 OUT #3 (H)	-K12 (22)	C65J1B-48
(B)	ARINC 429 OUT #3 (L)	C170J1B-K13 (22)	C65J1B-49
		SHIELD GND	SHIELD GND

Interconnect Information
Table 501 (cont)

INERTIAL REFERENCE UNIT No. 2

IOB P	Function	Connector Pin		Connects To
(P)	115V AC, 400Hz,PWR	C170J1C-1	(20)	A/C AC PWR
(P)	+24V DC BATTERY INPUT	-2	(16)	IRU BATT J1B-8
(P)	+28V DC ESSENTIAL INPUT	-4	(20)	A/C DC PWR
(P)	115V AC, 400Hz RETURN	-5	(20)	A/C AC RTN
(P)	+28V DC ISDU/NDU PWR	-6	(20)	172J3-M 171J3-3 (OPT) 198J3-3 (OPT)
(P)	+28V DC INPUT	-7	(16)	A/C DC PWR
(P)	28V DC/BATT RETURN	-8	(16)	A/C DC RTN
(P)	ANNUNCIATOR PWR OUT	-9	(20)	172J3-L
(P)	ANNUNCIATOR PWR IN	-10	(16)	A/C DC PWR
(I)	CHASSIS GND	C170J1C-11	(16)	CHASSIS GND

Interconnect Information
Table 501 (cont)

INERTIAL REFERENCE UNIT No. 3
or
ATTITUDE HEADING REFERENCE UNIT

IOB P	Function	Connector Pin	Connects To
(I)	IDENT RES R1	E170J1A-A1 ----NC	
(I)	SDI/4	-A7 (22)------------------	E170J1B-A1
(I)	IDENT RES R2	-B1 ---- NC	
(I)	IDENT RES COM	-C2 ---- NC	
(I)	IDENT RES R4	-D1 ----NC	
(B)	GPS1 429 INPUT #3 (H)	-E2 ----NC	
(B)	GPS1 429 INPUT #3 (L)	-E3 ----NC	
(B)	GPS2 429 INPUT #3 (H)	-E4 ----NC	
(B)	GPS2 429 INPUT #3 (L)	-E5 ----NC	
(O)	CTVAL 1	-E6 (22)------------------	10J1B-95 C10J1B-95
(O)	CTVAL 2	-E7 (22)------------------	10J1B-96 C10J1B-96
(O)	AC FAIL LOGIC OUT	-E10 ----NC	
(I)	AC TO BATT XFER	-E11 ----NC	
(I)	ASCB FORMAT SEL	-E13 (22)-----------------	E170J1B-A1
(I)	37 WORD FORMAT	-E14 (22)-----------------	E170J1B-A1
(I)	GPS1 TIME MARK (1Hz) #3 (H)	-F4 ----NC	
(I)	GPS1 TIME MARK (1Hz) #3 (L)	-F5 ----NC	
(I)	GPS2 TIME MARK (1Hz) #3 (H)	-G2 ----NC	
(I)	GPS2 TIME MARK (1Hz) #3 (L)	-G3 ----NC	
(O)	CHARGER INHIBIT (28V/0)	E170J1A-G9 ----NC	

Interconnect Information
Table 501 (cont)

INERTIAL REFERENCE UNIT No. 3
or
ATTITUDE HEADING REFERENCE UNIT

IOB P	Function	Connector Pin	Connects To
(B)	SYS ASCB PRI (H)	E170J1A-H1 (22)	REF SECT 3.3
(B)	SYS ASCB PRI (L)	-H2 (22)	
(B)	RS 232 DATA XMTR	-H3 (22)	TEST CONNECTOR
(B)	RS 232 DATA RCVR	-H4 (22)	TEST CONNECTOR
(B)	RS 232 COMMON	-H7 (22)	TEST CONNECTOR
	SHIELD GND		SHIELD GND
(B)	RS 232 DTR	-H5 ----NC	
(B)	RS 232 CTS	-H6 ----NC	
(I)	MEM ACCESS WR ENA (GND/O)	-H10 (22)	FLT TEST ONLY
(I)	SDI/3	-J9 (22)	170J1B-A1
(B)	SYS ASCB SEC (H)	-K1 (22)	REF SECT 3.3
(B)	SYS ASCB SEC (L)	-K2 (22)	
(I)	BITE WRITE INHIBIT (GND/O)	E170J1A-K6 ----NC	

Interconnect Information
Table 501 (cont)

INERTIAL REFERENCE UNIT No. 3
or
ATTITUDE HEADING REFERENCE UNIT

IOB P	Function	Connector Pin	Connects To
(O)	LOGIC GROUND	E170J1B-A1 (22)	172J1-U
(I)	IRU ORIENT/1	-A2 (22)	E170J1B-A1
(I)	IRU ORIENT/2	-A3 (22)	E170J1B-A1
(I)	SDI/2	-A7 (22)	E170J1B-A1
(B)	FMS1 429 INPUT (H)	-A8 (22)	121J1B-3
(B)	GEN BUS SECONDARY (L)	-A9 (22)	121J1B-15
		SHIELD GND	SHIELD GND
(I)	REMOTE TEST	-A10 (22)	172J2-W
(B)	ISDU/NDU 429 INPUT (H)	-A13 (22)	171J2-24 (OPT) 198J2-24 (OPT)
(B)	ISDU/NDU 429 INPUT (L)	-A14 (22)	171J2-25 (OPT) 198J2-25 (OPT)
		SHIELD GND	SHIELD GND
(O)	BATT FAIL ANNUN (GND/O)	-A15 (22)	DIM & TEST PANEL
(B)	FMS2 429 INPUT (H)	-C5 (22)	C121J1B-3
(B)	GEN BUS PRIMARY (L)	-C6 (22)	C121J1B-15
		SHIELD GND	SHIELD GND
(O)	FAULT ANNUN (GND/O)	-D2 (22)	DIM & TEST PANEL
(O)	ATT ANNUN (GND/O)	-D3 ----NC	
(O)	NO AIR ANNUN (GND/O)	-E1 (22)	134J1A-27, C134J1A-27
(O)	ON DC ANNUN (GND/O)	-E2 ----NC	
(B)	ARINC 429 OUT #2 (H)	-E5 (22)	65J1B-8
(B)	ARINC 429 OUT #2 (L)	-E6 (22)	65J1B-9
		SHIELD GND	SHIELD GND
(I)	MODE DISCRETE/1 (GND/O)	-F1 (22)	172J2-e
(I)	MODE DISCRETE/2 (GND/O)	-F2 (22)	172J2-f
(I)	ALIGN ANNUN (GND/O)	-F3 (22)	DIM & TEST PANEL
(B)	ARINC 429 OUT #4 (H)	-F14 (22)	E65J1B-8
(B)	ARINC 429 OUT #4 (L)	E170J1B-F15 (22)	E65J1B-9
		SHIELD GND	SHIELD GND

Interconnect Information
Table 501 (cont)

INERTIAL REFERENCE UNIT No. 3
or
ATTITUDE HEADING REFERENCE UNIT

IOB P	Function	Connector Pin	Connects To
(O)	IRU VALID	E170J1B-G1 ----NC	
(B)	ARINC 429 OUT #1 (H)	-G7 (22)	171J2-26 (OPT) 198J2-26 (OPT)
(B)	ARINC 429 OUT #1 (L)	-G8 (22)	171J2-27 (OPT) 198J2-27 (OPT)
		SHIELD GND	SHIELD GND
(B)	ARINC 429 OUT #5 (H)	-G14 (22)	DDRMI #1 DDRMI #2
(B)	ARINC 429 OUT #5 (L)	-G15 (22)	DDRMI #1 DDRMI #2
		SHIELD GND	SHIELD GND
(B)	ARINC 429 OUT #6 (H)	-H14 (22)	134J1B-81 C134J1B-81
(B)	ARINC 429 OUT #6 (L)	-H15 (22)	134J1B-82 C134J1B-82
		SHIELD GND	SHIELD GND
(I)	DADC 429/575 SEL (GND/O)	-J6 (22)	C170J1B-A1
(I)	SDI/1 (GND/O)	-J9 ----NC	
(B)	DADC 429 INPUT (H)	-J10 (22)	9J1B-70
(B)	SECONDARY DATA BUS (L)	-J11 (22)	9J1B-71
		SHIELD GND	SHIELD GND
(O)	ON BATT ANNUN (GND/O)	-J15 (22)	DIM & TEST PANEL
(B)	DADC 429 INPUT (H)	-K4 (22)	C9J1B-70
(B)	PRIMARY DATA BUS (L)	-K5 (22)	C9J1B-71
		SHIELD GND	SHIELD GND
(B)	ARINC 429 OUT #3 (H)	-K12 (22)	C65J1B-8
(B)	ARINC 429 OUT #3 (L)	E170J1B-K13 (22)	C65J1B-9
		SHIELD GND	SHIELD GND

Interconnect Information
Table 501 (cont)

INERTIAL REFERENCE UNIT No. 3
or
ATTITUDE HEADING REFERENCE UNIT

IOB P	Function	Connector Pin		Connects To
(P)	115V AC, 400Hz, PWR	E170J1C-1	(20)	A/C AC PWR
(P)	+24V DC BATTERY INPUT	-2	(16)	IRU BATT J1B-8
(P)	+28V DC ESSENTIAL INPUT	-4	(20)	A/C DC PWR
(P)	115V AC, 400Hz RETURN	-5	(20)	A/C AC RTN
(P)	+28V DC ISDU/NDU PWR	-6	(20)	172J2-M 171J2-3 (OPT) 198J2-3 (OPT)
(P)	+28V DC INPUT	-7	(16)	A/C DC PWR
(P)	28V DC/BATT RETURN	-8	(16)	A/C DC RTN
(P)	ANNUNCIATOR PWR OUT	-9	(20)	172J1-L
(P)	ANNUNCIATOR PWR IN	-10	(16)	A/C DC PWR
(I)	CHASSIS GND	E170J1C-11	(16)	CHASSIS GND

Interconnect Information
Table 501 (cont)

APPENDIX A
SYMBOL GENERATOR/DISPLAY UNIT
INTERFACE REQUIREMENTS

Interconnect Information
Table 501 (cont)

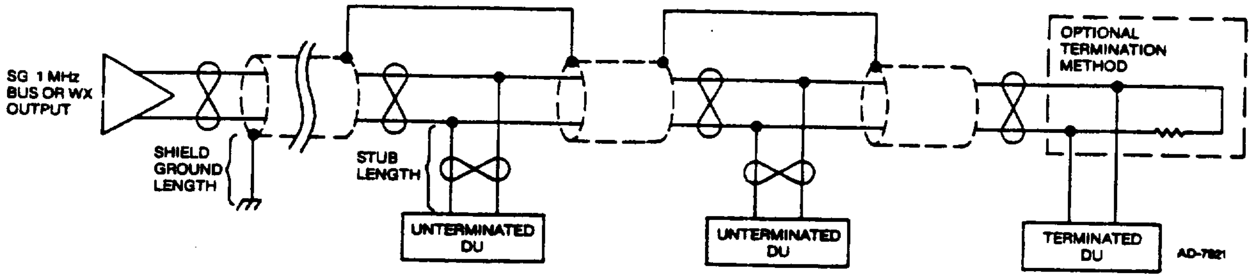
APPENDIX A
SYMBOL GENERATOR/DISPLAY UNIT INTERFACE REQUIREMENTS

1.0 SYMBOL GENERATOR/DISPLAY UNIT INTERFACE REQUIREMENTS

The following paragraphs define the electrical interface requirements for the Symbol Generator/Display Unit interconnect.

a. The SG/DU transmission lines shall be Raychem 2524E0114 with a thermorad jacket or its equivalent. (This same cable is used for ASCB). Each transmission line pair shall have a characteristic impedance of 125 ± 5 ohms. The characteristic capacitance shall be 12 ± 2 picofarads/foot.

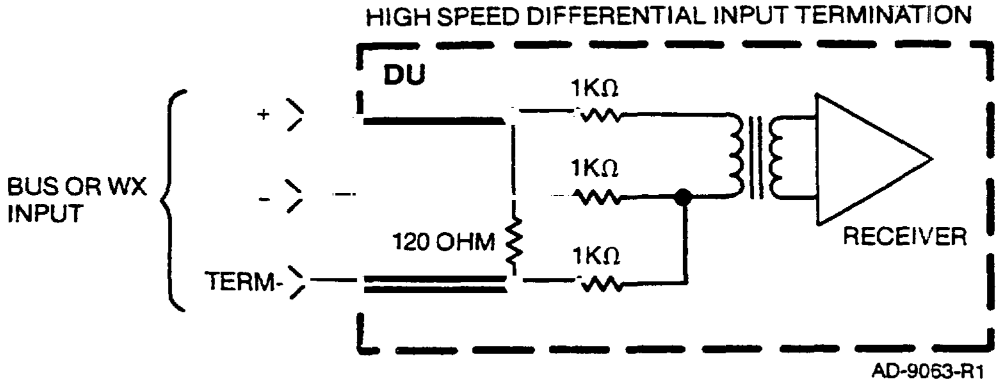
b. DUs are to be connected to a bus as shown below. Only the DU at the end of the cable shall be terminated.



c. One to six Display Units may be connected to a single 1 MHz SG bus output.

d. Each DU has provisions for bus termination. The + input is always used. The - input is used if the DU does not provide the bus termination. The TRM - input is used to terminate the bus within the display unit.

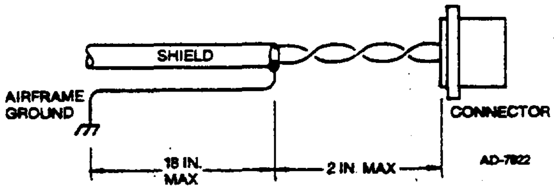
Note that if a terminating DU is removed from the panel, all remaining DUs utilizing that particular bus may fail to operate or may operate intermittently. Therefore, optional termination resistors can be incorporated into the aircraft wiring should dispatch without a DU be required. The termination resistors should be 120, 5%, 1/2 W, carbon composition.



e. The cable shield should be connected to airframe ground at one point only, preferably at the symbol generator as shown in paragraph 1.0.b. The length of the wire connecting the shield to airframe ground should be 18 in. maximum.

f. The maximum stub length is 3 ft. The minimum distance between stubs is 2 ft.

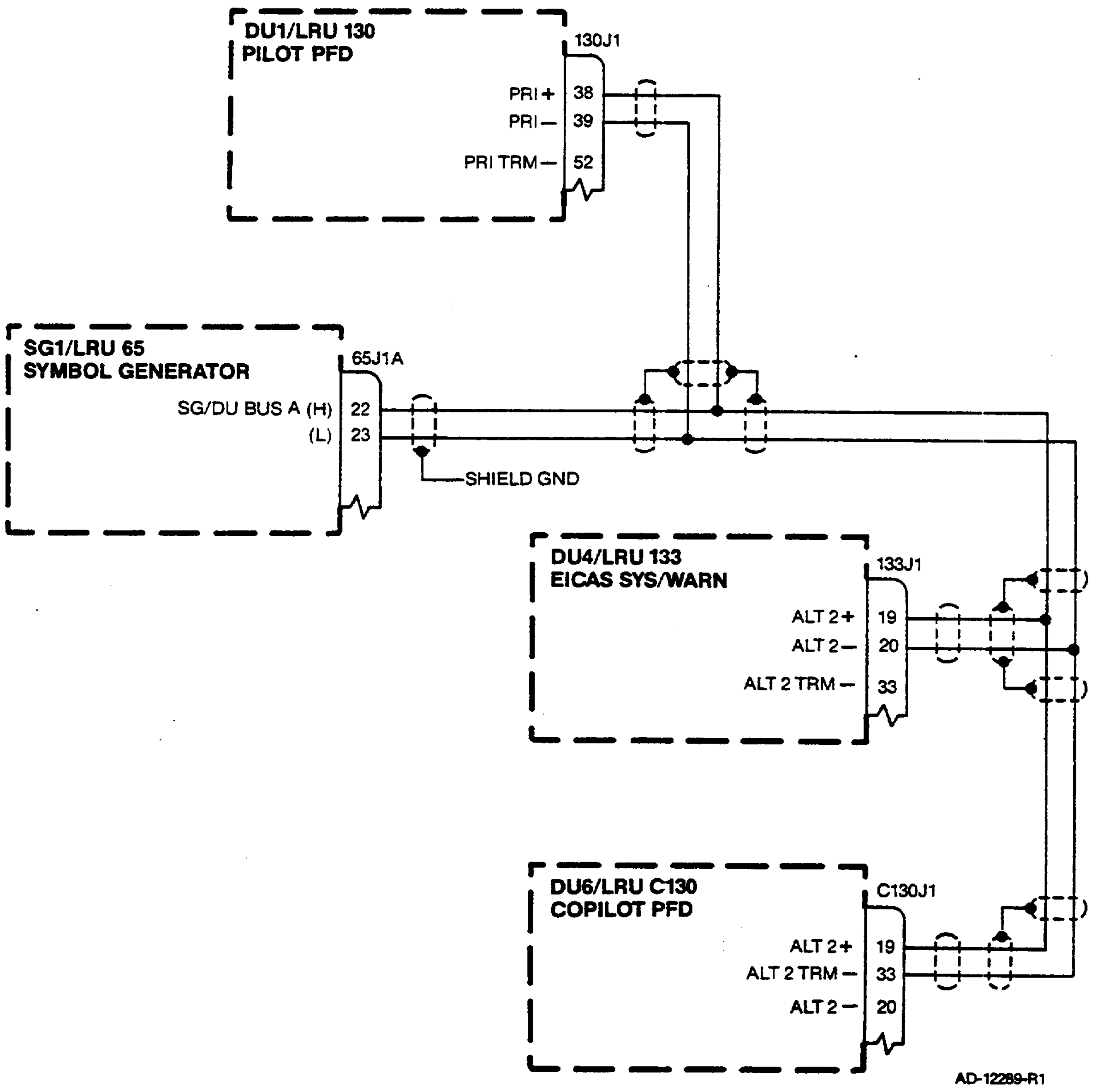
g. The unshielded distance from the end of the shield to the rear of a connector is 2 in. maximum.



h. The maximum cable length from a Symbol Generator to the DU at the end of a 1 MHz Bus is 200 ft.

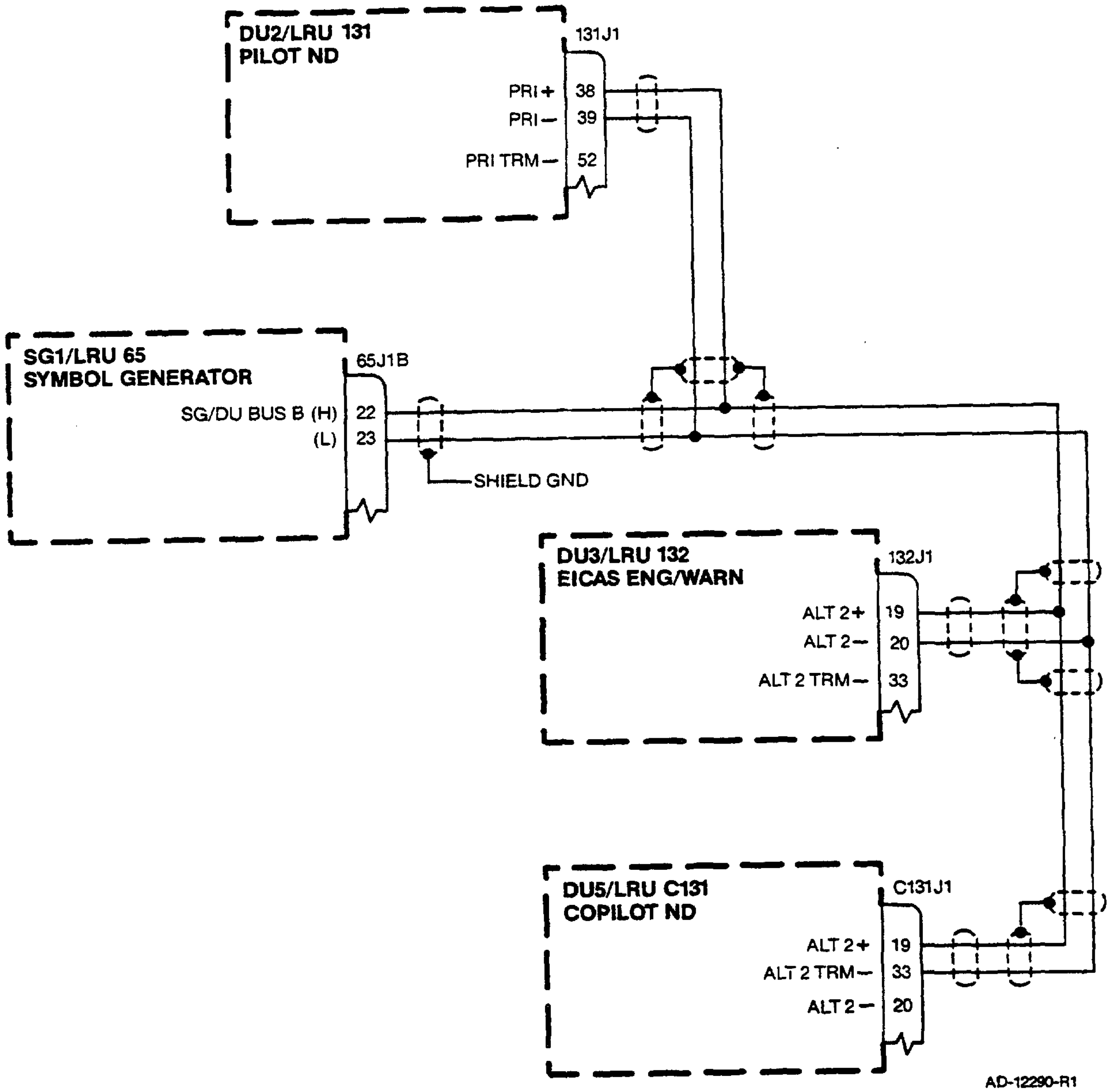
1.1 <u>Symbol Generator No. 1/Display Units</u>

Figures A-1, A-2, and A-3 illustrate the three Symbol Generator/Display Unit interconnects for Symbol Generator No. 1.



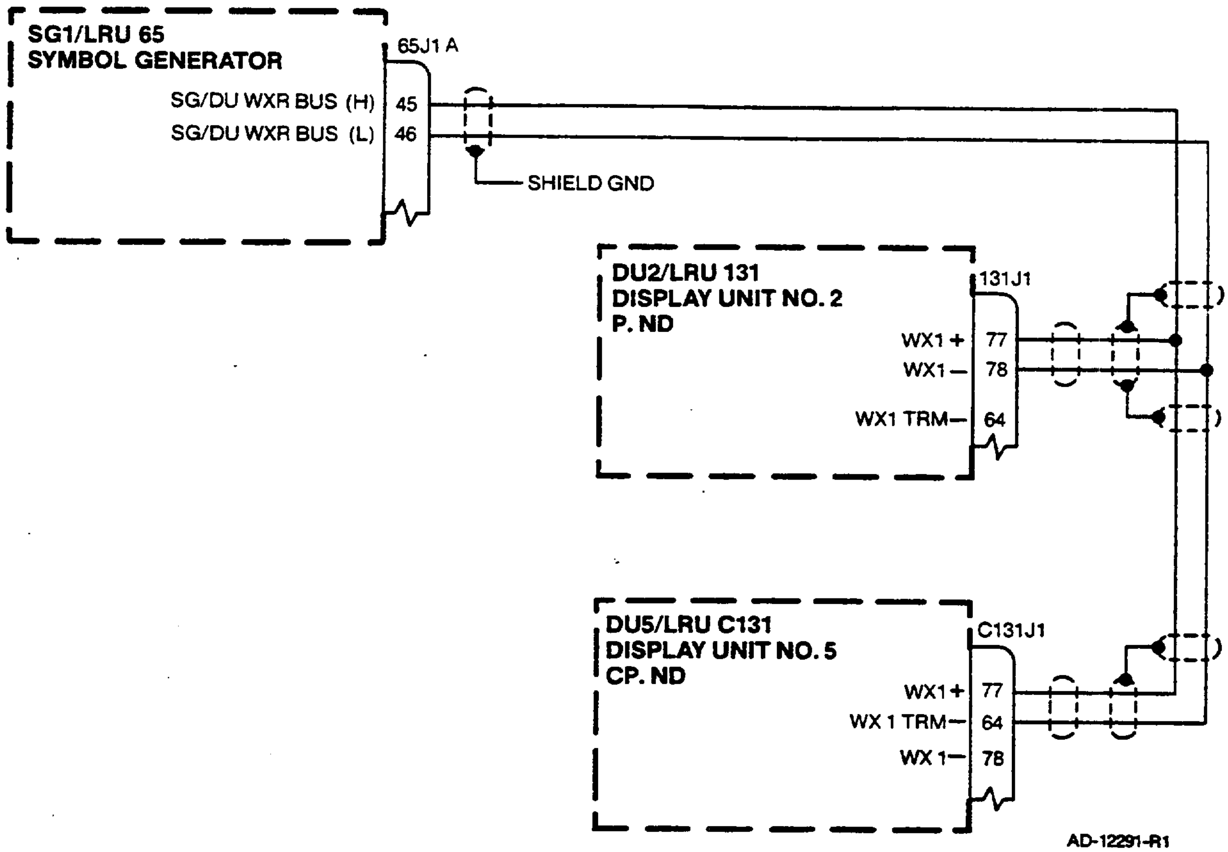
Symbol Generator No. 1 (Bus A/Display Unit Interconnect)
Figure A-1

Interconnect Information
Table 501 (cont)



Symbol Generator No. 1 (Bus B/Display Unit Interconnect)
Figure A-2

Interconnect Information
Table 501 (cont)

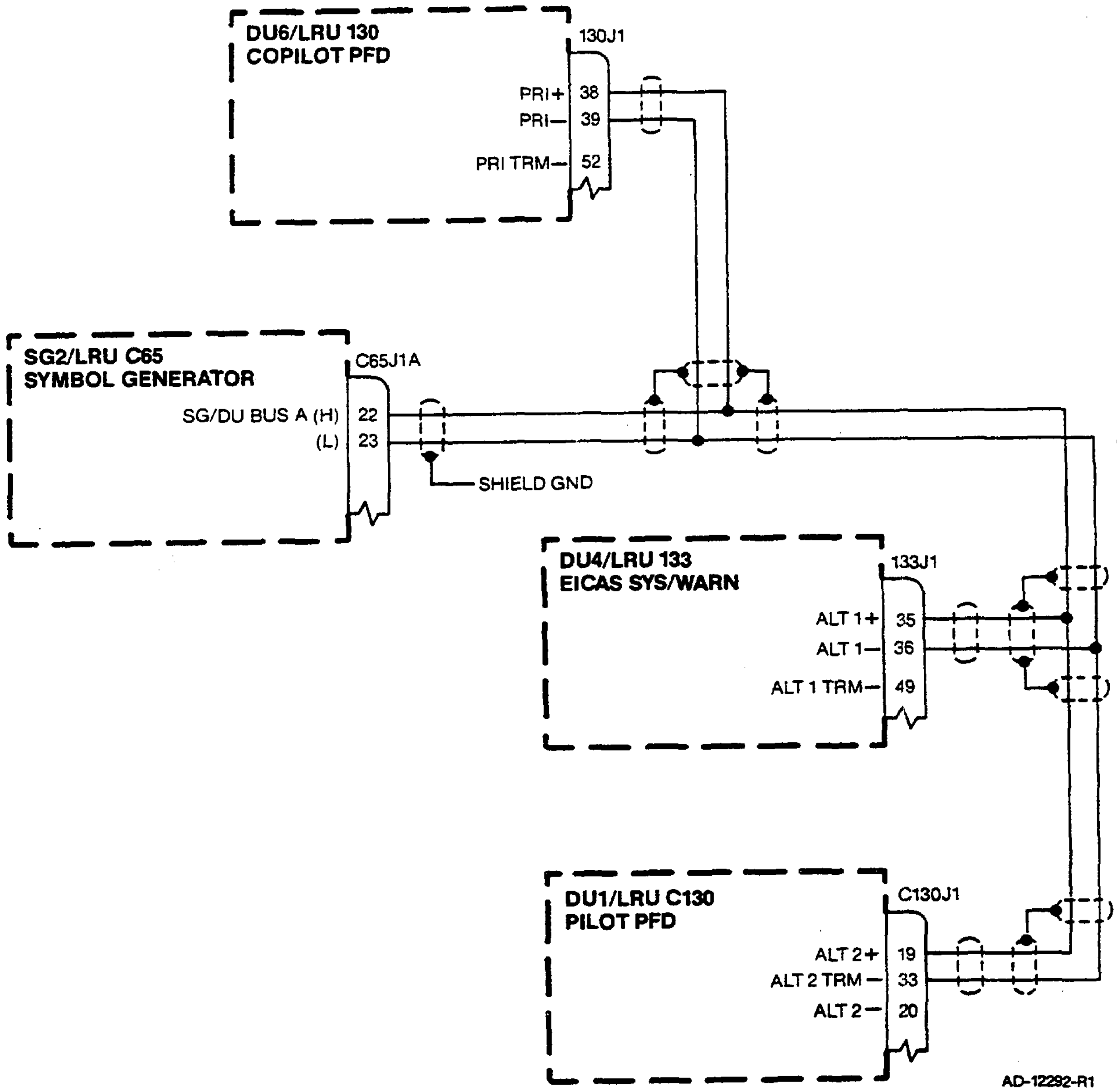


Symbol Generator No. 1 (WXR/Display Unit Interconnect)
Figure A-3

Interconnect Information
Table 501 (cont)

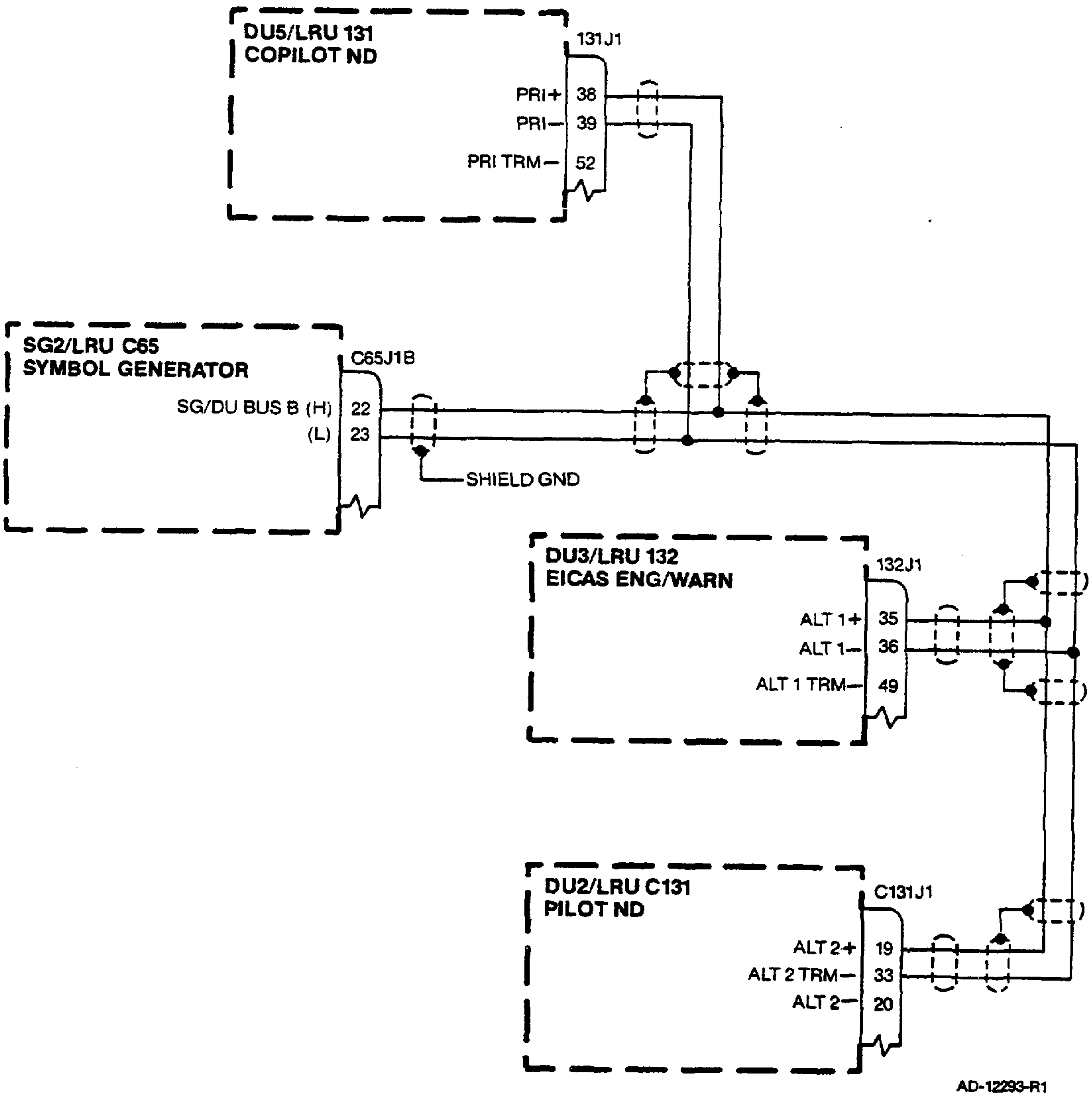
1.2 Symbol Generator No. 2/Display Units

Figures A-4, A-5, and A-6 illustrate the Symbol Generator/Display Unit interconnects for Symbol Generator No. 2.



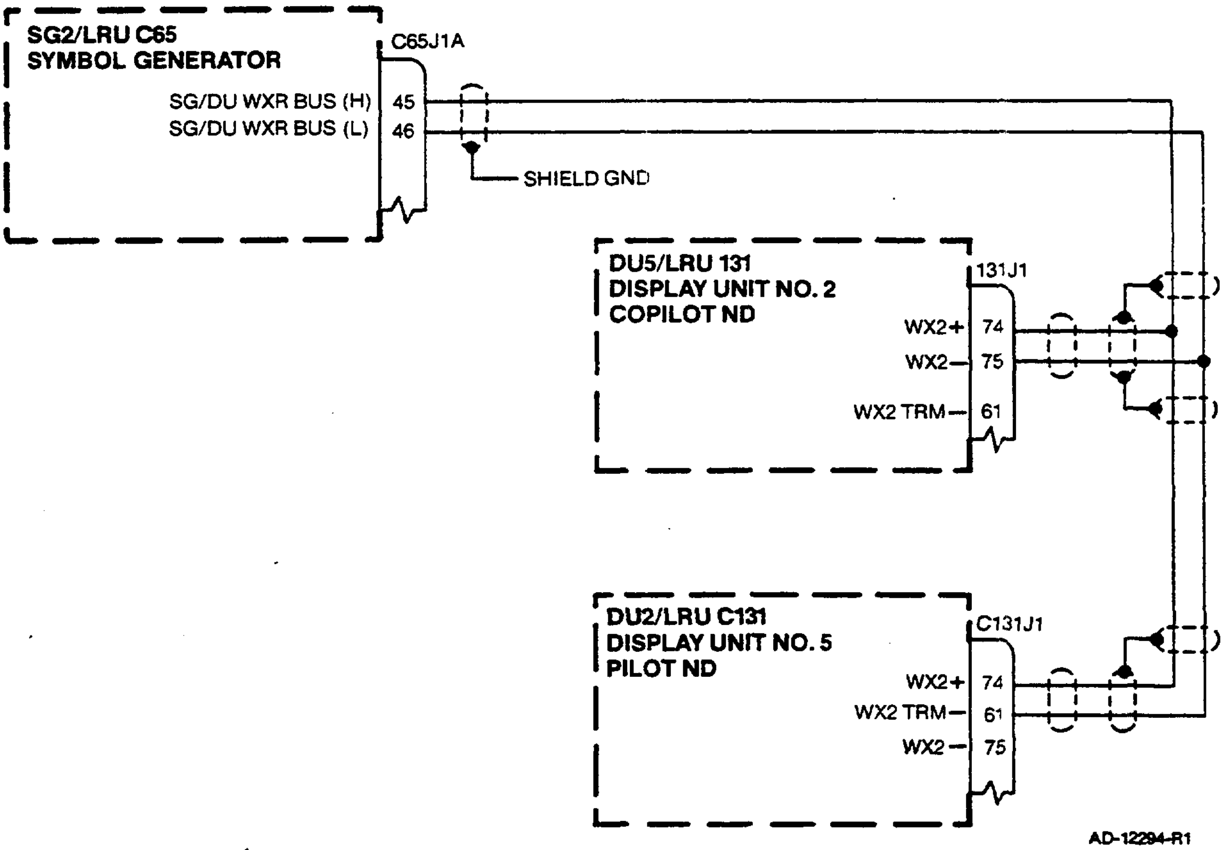
Symbol Generator No. 2 (Bus A/Display Unit Interconnect)
Figure A-4

Interconnect Information
Table 501 (cont)



Symbol Generator No. 2 (Bus B/Display Unit Interconnect)
Figure A-5

Interconnect Information
Table 501 (cont)

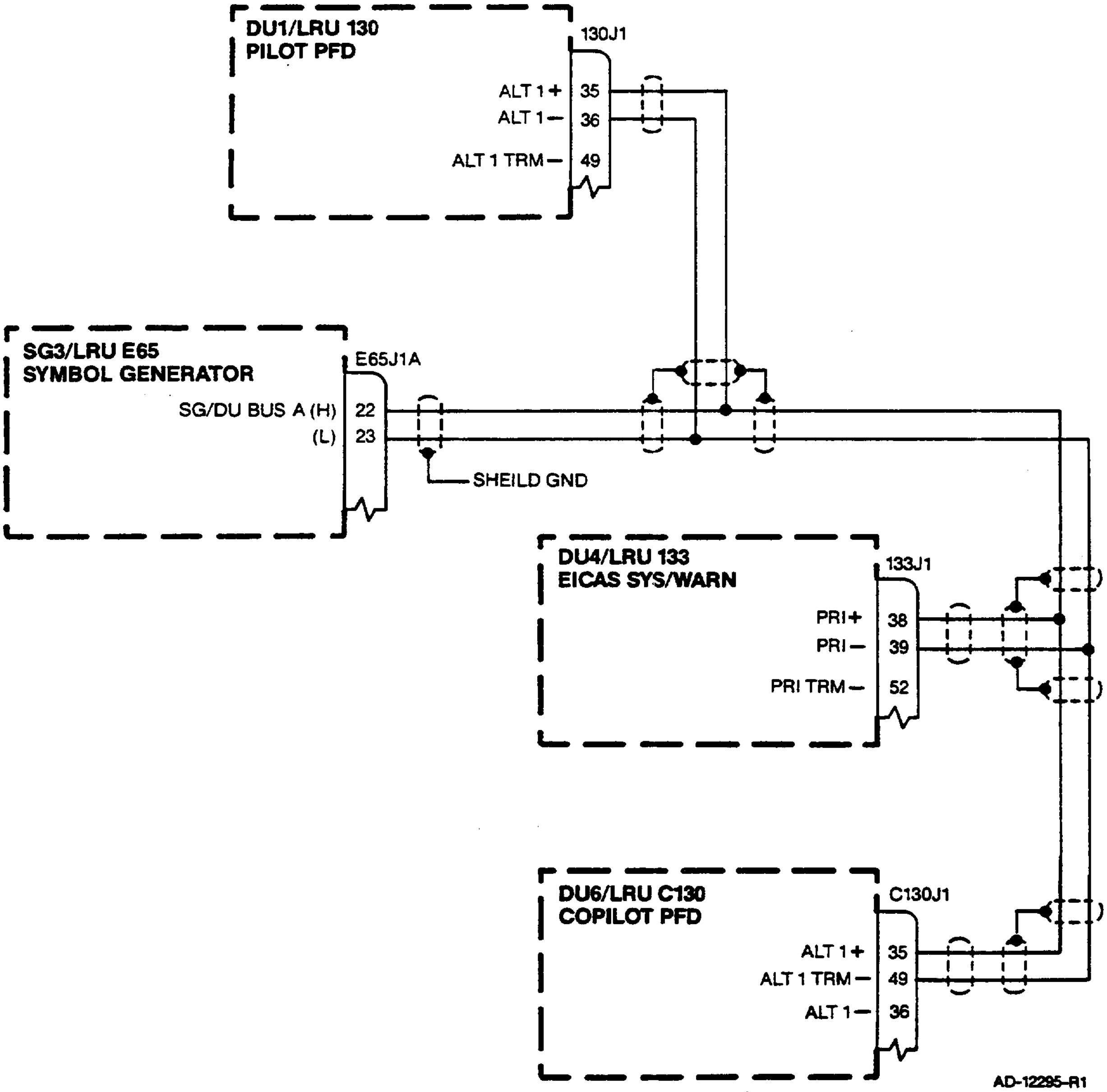


Symbol Generator No. 2 (WXR/Display Unit Interconnect)
Figure A-6

Interconnect Information
Table 501 (cont)

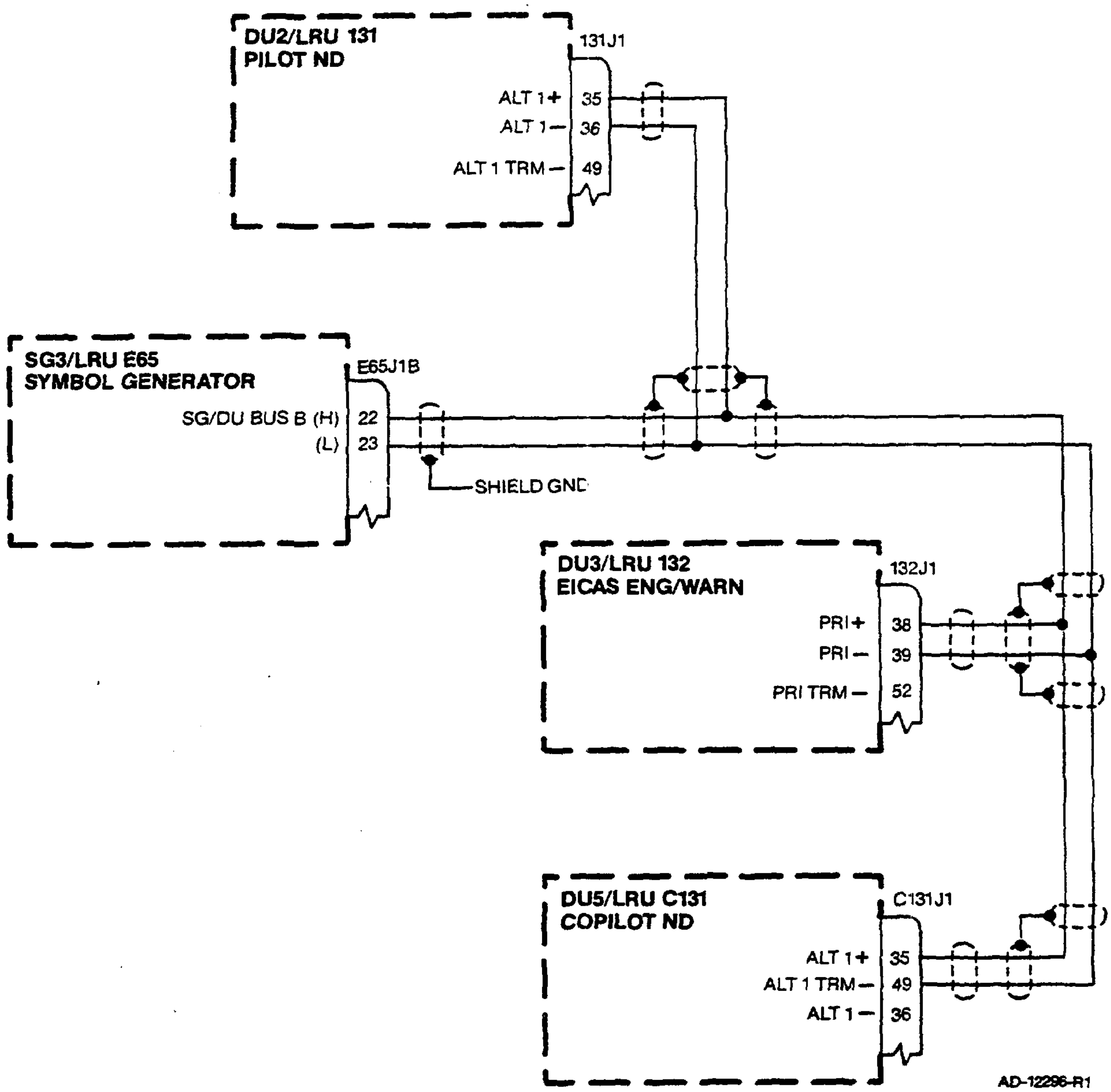
1.3 Symbol Generator No. 3/Display Unit Interconnect

Figures A-7, A-8, and A-9 illustrate the Symbol Generator/Display Unit interconnects for Symbol Generator No. 3.



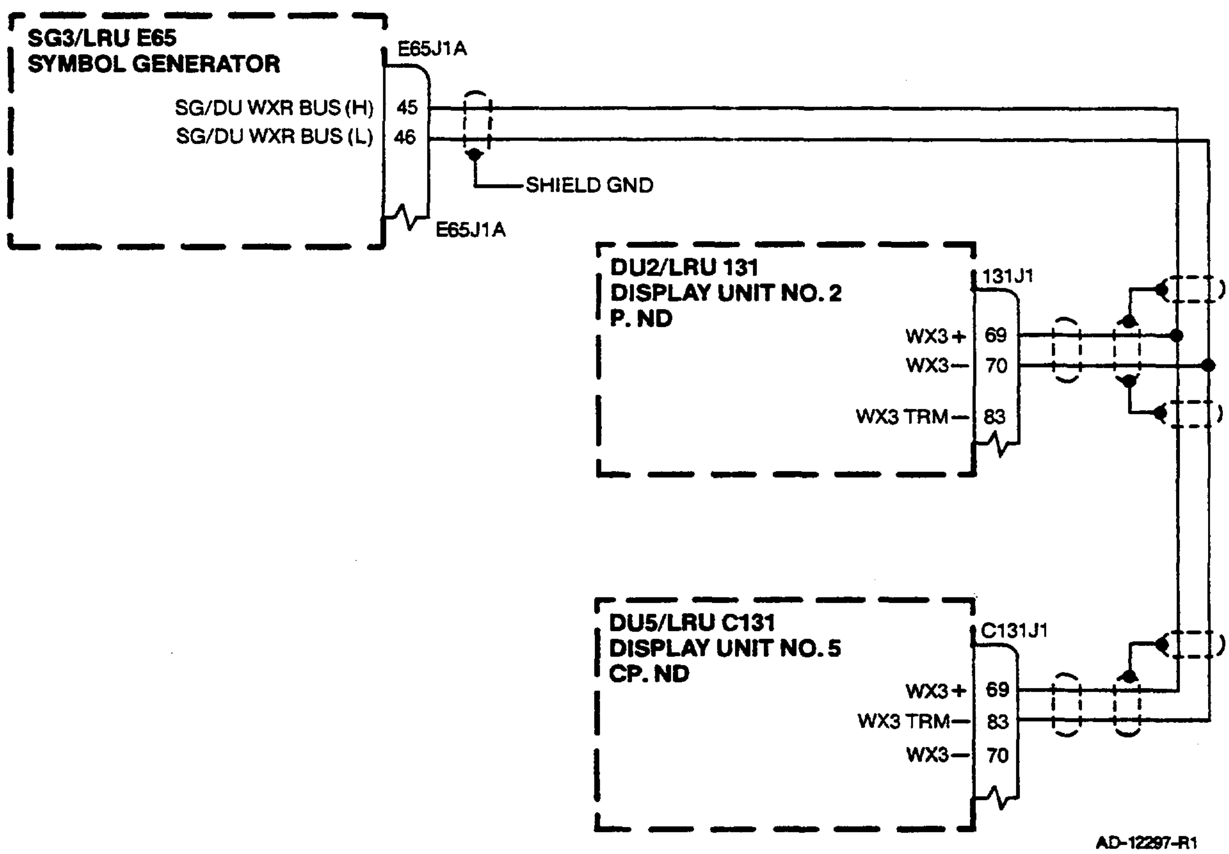
Symbol Generator No. 3 (Bus A/Display Unit Interconnect)
Figure A-7

Interconnect Information
Table 501 (cont)



Symbol Generator No. 3 (Bus B/Display Unit Interconnect)
Figure A-8

Interconnect Information
Table 501 (cont)



Symbol Generator No. 3 (WXR/Display Unit Interconnect)
Figure A-9

Interconnect Information
Table 501 (cont)

APPENDIX B
REVERSIONARY SELECT REQUIREMENTS

APPENDIX B
REVERSIONARY SELECT REQUIREMENTS

1.0 ELECTRONIC DISPLAY SYSTEM REVERSIONARY SELECTION

1.1 Introduction

The Rev Controller shall provide the flight crew with one controller with which to control all Rev modes of the Electronic Display System (EDS). This controller shall be designed to meet the following criteria:

1. The Rev Controller shall be functionally easy to understand and to operate. This is of importance due to the flight crew's need to utilize the Rev Controller in the event of an EDS failure.

2. The Rev Controller shall be extremely reliable. This shall be achieved through the utilization of mechanical switches and diodes to implement the logic required to configure the EDS to the proper reversionary states. No electronic logic devices shall be used.

The Rev Controller shall output logic commands that will be utilized by the Symbol Generators (SGs) and Display Units (DUs) to configure to the proper reversionary state. The logic signals shall be self-latching thereby requiring less input circuitry for the SGs and DUs. The self-latching requirement shall be met through the utilization of self-latching mechanical switches.

The Rev Controller utilized on the G-IV is manufactured by Gulfstream Aerospace Corporation. The internal schematic and output pins are shown in Figure B-2.

1.2 Functional Description

The Rev Controller shall provide control of all the Electronic Display System reversionary states. A complete tabulation of all reversionary states and resulting system configurations is provided in Table B-2 (A) - (E). These tables can be reduced to provide the DU input port switching logic as presented in Table B-3.

1.2.1 SG Reversionary Select

In the event of the absence of a signal from the SG, the DU shall display a message to the flight crew that a SG failure has occurred (i.e. Red X). The flight crew will then select the proper SG Rev Select to reconfigure the EDS to compensate for the particular SG failure.

The SGs shall utilize the SG Rev Select logic to shut down or to reconfigure their output formats due to one of the SGs being shut down.

The DUs shall utilize the SG Rev Select logic to reconfigure their input ports to match the configuration of the operable SGs.

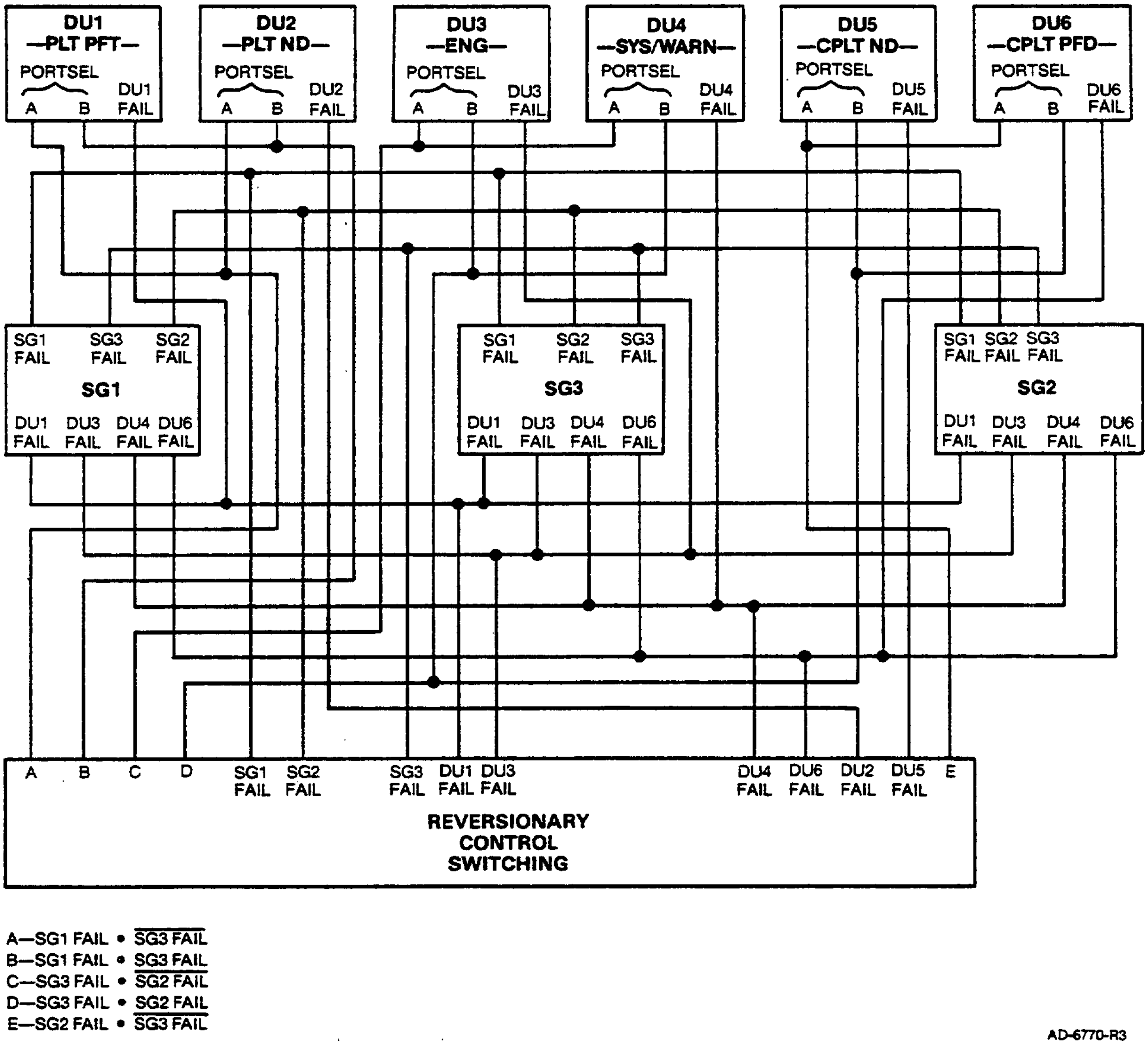
1.2.2 DU Reversionary Select

In the event of a DU failure, the flight crew will utilize the Rev Controller to reconfigure the EDS to the proper reversionary state.

The DUs shall utilize the DU Rev Select logic to shutdown if applicable.

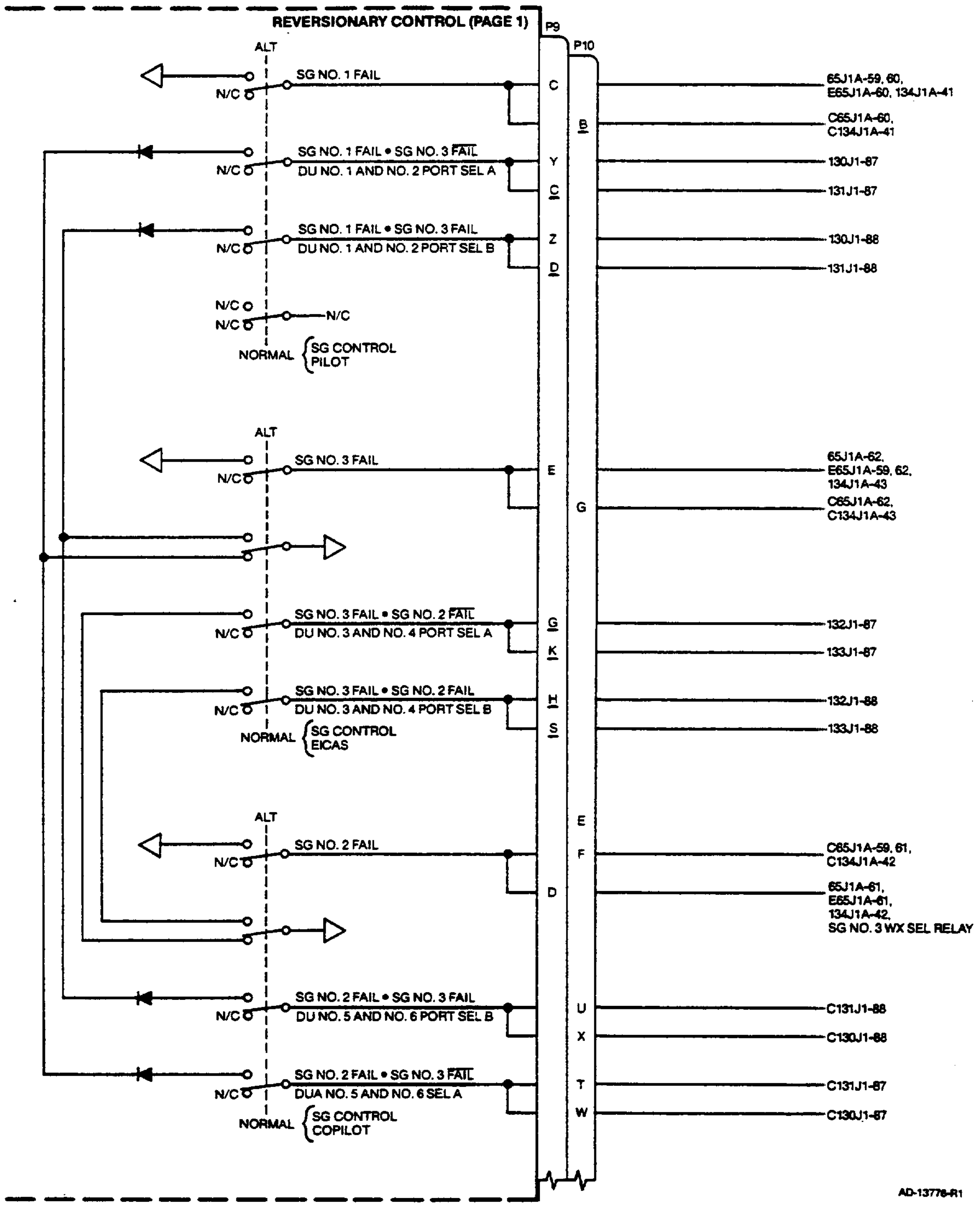
The SGs shall utilize the DU Rev Select logic to reconfigure their output ports to supply the proper formats to the reconfigured DUs.

Interconnect Information
Table 501 (cont)



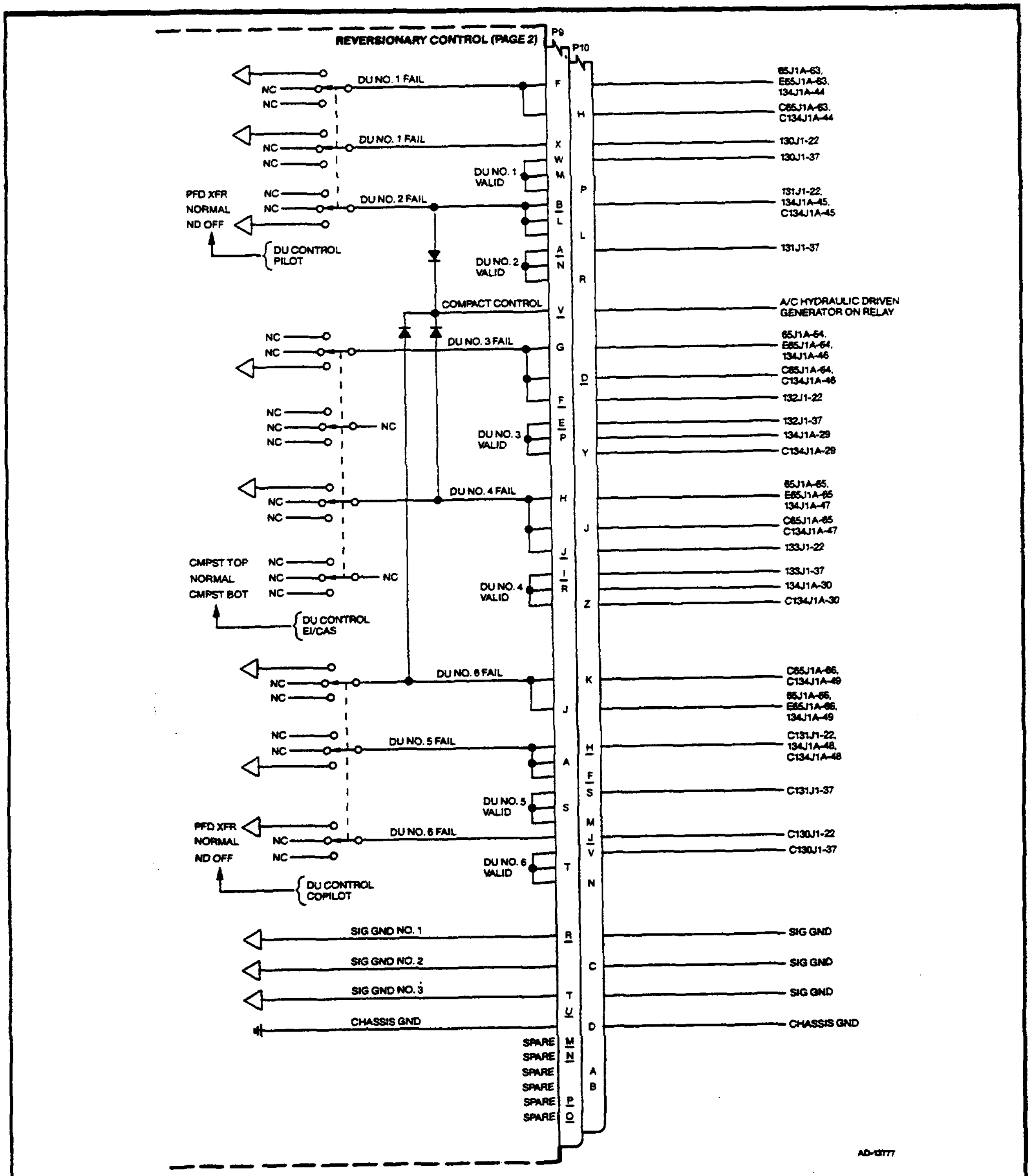
Electronic Display System's External
Reversionary Interface Schematic for the G-IV
Figure B-1

Interconnect Information
Table 501 (cont)



Reversionary Controller
Figure B-2 (Page 1 of 2)

Interconnect Information
Table 501 (cont)



Reversionary Controller
Figure B-2 (Page 2 of 2)

Interconnect Information
Table 501 (cont)

Table B-2 (A)
Reversionary State Versus System Configuration for the G-IV - All SGs Operational

DU FAILURE	SG1				SG3				SG2				COMMENT
	BUS 1		BUS 2		BUS 1		BUS 2		BUS 1		BUS 2		
NORMAL	PFD	—	ND	—	—	SYS	—	ENG	PFD	—	ND	—	
	DU1		DU2			DU4		DU3	DU6		DU5		
DU1 FAIL	—	—	PFD	—	—	SYS	—	ENG	PFD	—	ND	—	
(PLT PFD)			DU2			DU4		DU3	DU6		DU5		
DU2 FAIL	PFD	—	—	—	—	SYS	—	ENG	PFD	—	ND	—	NO REV PROVISION
(PLT ND)	DU1					DU4		DU3	DU6		DU5		
DU3 FAIL	PFD	—	ND	—	—	COMP	—	—	PFD	—	ND	—	
(ENG)	DU1		DU2			DU4			DU6		DU5		
DU4 FAIL	PFD	—	ND	—	—	—	—	COMP	PFD	—	ND	—	
(SYS/WARN)	DU1		DU2					DU3	DU6		DU5		
DU5 FAIL	PFD	—	ND	—	—	SYS	—	ENG	PFD	—	—	—	NO REV PROVISION
(CPLT ND)	DU1		DU2			DU4		DU3	DU6				
DU6 FAIL	PFD	—	ND	—	—	SYS	—	ENG	—	—	PFD	—	
(CPLT PFD)	DU1		DU2			DU4		DU3			DU5		
DU1 AND DU2	—	—	—	—	—	SYS	—	ENG	PFD	—	ND	—	NO REV PROVISIONS
FAIL						DU4		DU3	DU6		DU5		
DU3 AND DU4	PFD	—	ND	—	—	—	—	—	PFD	—	ND	—	
FAIL	DU1		DU2						DU6		DU5		
DU5 AND DU6	PFD	—	ND	—	—	SYS	—	ENG	—	—	—	—	
FAIL	DU1		DU2			DU4		DU3					

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Interconnect Information
Table 501 (cont)

Table B-2 (B)
Reversionary State Versus System Configuration for the G-IV - SG 1 Failed

DU FAILURE	SG1				SG3				SG2				COMMENT
	BUS 1		BUS 2		BUS 1		BUS 2		BUS 1		BUS 2		
NORMAL	—	—	—	—	PFD	SYS	ND	ENG	PFD	—	ND	—	
					DU1	DU4	DU2	DU3	DU6		DU5		
DU1 FAIL	—	—	—	—	—	SYS	PFD	ENG	PFD	—	ND	—	
(PLT PFD)						DU4	DU2	DU3	DU6		DU5		NO REV PROVISION
DU2 FAIL	—	—	—	—	PFD	SYS	—	ENG	PFD	—	ND	—	
(PLT ND)					DU1	DU4		DU3	DU6		DU5		
DU3 FAIL	—	—	—	—	PFD	COMP	ND	—	PFD	—	ND	—	
(ENG)					DU1	DU4	DU2		DU6		DU5		
DU4 FAIL	—	—	—	—	PFD	—	ND	COMP	PFD	—	ND	—	
(SYS/WARN)					DU1		DU2	DU3	DU6		DU5		
DU5 FAIL	—	—	—	—	PFD	SYS	ND	ENG	PFD	—	—	—	NO REV PROVISION
(CPLT ND)					DU1	DU4	DU2	DU3	DU6				
DU6 FAIL	—	—	—	—	PFD	SYS	ND	ENG	—	—	PFD	—	
(CPLT PFD)					DU1	DU4	DU2	DU3			DU5		
DU1 AND DU2	—	—	—	—	—	SYS	—	ENG	PFD	—	ND	—	
FAIL						DU4		DU3	DU6		DU5		
DU3 AND DU4	—	—	—	—	PFD	—	ND	—	PFD	—	ND	—	NO REV PROVISIONS
FAIL					DU1		DU2		DU6		DU5		
DU5 AND DU6	—	—	—	—	PFD	SYS	ND	ENG	—	—	—	—	
FAIL					DU1	DU4	DU2	DU3					

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Table B-2 (C)
Reversionary State Versus System Configuration for the G-IV - SG 2 Failed

DU FAILURE	SG1 BUS 1		SG1 BUS 2		SG3 BUS 1		SG3 BUS 2		SG2 BUS 1		SG2 BUS 2		COMMENT
NORMAL	PFD	—	ND	—	PFD	SYS	ND	ENG	—	—	—	—	
	DU1		DU2		DU6	DU4	DU5	DU3					
DU1 FAIL	—	—	PFD	—	PFD	SYS	ND	ENG	—	—	—	—	
(PLT PFD)			DU2		DU6	DU4	DU5	DU3					
DU2 FAIL	PFD	—	—	—	PFD	SYS	ND	ENG	—	—	—	—	NO REV PROVISION
(PLT ND)	DU1				DU6	DU4	DU5	DU3					
DU3 FAIL	PFD	—	ND	—	PFD	COMP	ND	—	—	—	—	—	
(ENG)	DU1		DU2		DU6	DU4	DU5						
DU4 FAIL	PFD	—	ND	—	PFD	—	ND	COMP	—	—	—	—	
(SYS/WARN)	DU1		DU2		DU6		DU5	DU3					
DU5 FAIL	PFD	—	ND	—	PFD	SYS	—	ENG	—	—	—	—	NO REV PROVISION
(CPLT ND)	DU1		DU2		DU6	DU4		DU3					
DU6 FAIL	PFD	—	ND	—	—	SYS	PFD	ENG	—	—	—	—	
(CPLT PFD)	DU1		DU2			DU4	DU5	DU3					
DU1 AND DU2	—	—	—	—	PFD	SYS	ND	ENG	—	—	—	—	
FAIL					DU6	DU4	DU5	DU3					
DU3 AND DU4	PFD	—	ND	—	PFD	—	ND	—	—	—	—	—	NO REV PROVISIONS
FAIL	DU1		DU2		DU6		DU5						
DU5 AND DU6	PFD	—	ND	—	—	SYS	—	ENG	—	—	—	—	
FAIL	DU1		DU2			DU4		DU3					

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Table B-2 (D)
Reversionary State Versus System Configuration for the G-IV - SG 3 Failed

DU FAILURE	SG1				SG3				SG2				COMMENT
	BUS 1		BUS 2		BUS 1		BUS 2		BUS 1		BUS 2		
NORMAL	PFD	—	ND	—	—	—	—	—	PFD	SYS	ND	ENG	
	DU1		DU2						DU6	DU4	DU5	DU3	
DU1 FAIL	—	—	PFD	—	—	—	—	—	PFD	SYS	ND	ENG	
(PLT PFD)			DU2						DU6	DU4	DU5	DU3	
DU2 FAIL	PFD	—	—	—	—	—	—	—	PFD	SYS	ND	ENG	NO REV PROVISION
(PLT ND)	DU1								DU6	DU4	DU5	DU3	
DU3 FAIL	PFD	—	ND	—	—	—	—	—	PFD	COMP	ND	—	
(ENG)	DU1		DU2						DU6	DU4	DU5		
DU4 FAIL	PFD	—	ND	—	—	—	—	—	PFD	—	ND	COMP	
(SYS/WARN)	DU1		DU2						DU6		DU5	DU3	
DU5 FAIL	PFD	—	ND	—	—	—	—	—	PFD	SYS	—	ENG	NO REV PROVISION
(CPLT ND)	DU1		DU2						DU6	DU4		DU3	
DU6 FAIL	PFD	—	ND	—	—	—	—	—	—	SYS	PFD	ENG	
(CPLT PFD)	DU1		DU2							DU4	DU5	DU3	
DU1 AND DU2	—	—	—	—	—	—	—	—	PFD	SYS	ND	ENG	NO REV PROVISIONS
FAIL									DU6	DU4	DU5	DU3	
DU3 AND DU4	PFD	—	ND	—	—	—	—	—	PFD	—	ND	—	
FAIL	DU1		DU2						DU6		DU5		
DU5 AND DU6	PFD	—	ND	—	—	—	—	—	—	SYS	—	ENG	
FAIL	DU1		DU2							DU4		DU3	

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Interconnect Information
Table 501 (cont)

Table B-2 (E)
Reversionary State Versus System Configuration for
the G-IV - Any 2 SGs Failed

DU FAILURE	SG				SG				SG				COMMENT
	BUS 1		BUS 2		BUS 1		BUS 2		BUS 1		BUS 2		
NORMAL	—	—	—	—	PFD	SYS	ND	ENG	—	—	—	—	
					DU1/6	DU4	DU2/5	DU3					
DU1 FAIL	—	—	—	—	—	SYS	PFD	ENG	—	—	—	—	
(PLT PFD)						DU4	DU2/5	DU3					
DU2 FAIL	—	—	—	—	PFD	SYS	ND	ENG	—	—	—	—	NO REV PROVISION
(PLT ND)					DU1/6	DU4	DU5	DU3					
DU3 FAIL	—	—	—	—	PFD	COMP	ND	—	—	—	—	—	
(ENG)					DU1/6	DU4	DU2/5						
DU4 FAIL	—	—	—	—	PFD	—	ND	COMP	—	—	—	—	
(SYS/WARN)					DU1/6		DU2/5	DU3					
DU5 FAIL	—	—	—	—	PFD	SYS	ND	ENG	—	—	—	—	NO REV PROVISION
(CPLT ND)					DU1/6	DU4	DU2	DU3					
DU6 FAIL	—	—	—	—	PFD	SYS	ND	ENG	—	—	—	—	
(CPLT PFD)					DU1	DU4	DU2/5	DU3					
DU1 AND DU2	—	—	—	—	PFD	SYS	ND	ENG	—	—	—	—	NO REV PROVISION
FAIL					DU6	DU4	DU5	DU3					
DU3 AND DU4	—	—	—	—	PFD	—	ND	—	—	—	—	—	
FAIL					DU1/6		DU2/5						
DU5 AND DU6	—	—	—	—	PFD	SYS	ND	ENG	—	—	—	—	
FAIL					DU1	DU4	DU2	DU3					

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Table B-3
DU Input Port Switching Logic for the G-IV

DU INPUT PORT	PORTSEL A	PORTSEL B
PRIMARY	OPEN	OPEN
1ST ALTERNATE	GND	OPEN
2ND ALTERNATE	OPEN	GND
3RD ALTERNATE	GND	GND

DU 1 & DU 2

1ST ALTERNATE -----> SG1 FAIL · $\overline{\text{SG3 FAIL}}$
2ND ALTERNATE -----> SG1 FAIL · SG3 FAIL

DU 3 & DU 4

1ST ALTERNATE -----> SG3 FAIL · $\overline{\text{SG2 FAIL}}$
2ND ALTERNATE -----> SG3 FAIL · SG2 FAIL

DU 5 & DU 6

1ST ALTERNATE -----> SG2 FAIL · $\overline{\text{SG3 FAIL}}$
2ND ALTERNATE -----> SG2 FAIL · SG3 FAIL

The SGs shall utilize the SG Rev Select logic to shut down or to reconfigure their output formats due to one of the SGs being shut down.

The DUs shall utilize the SG Rev Select logic to reconfigure their input ports to match the configuration of the operable SGs.

1.4.2 DU Reversionary Select

In the event of a DU failure, the flight crew will utilize the Rev Controller to reconfigure the EDS to the proper reversionary state.

The DUs shall utilize the DU Rev Select logic to shutdown if applicable.

The SGs shall utilize the DU Rev Select logic to reconfigure their output ports to supply the proper formats to the reconfigured DUs.

Interconnect Information
Table 501 (cont)

APPENDIX C
DISCRETE INTERFACE SUMMARY

APPENDIX C
DISCRETE INTERFACE SUMMARY

1.0 INTRODUCTION

This appendix provides a complete listing of all the discrete inputs and outputs to the SPZ-8000 system components. This listing is comprised of the information presented below.

- Name
- LRU Pin Number
- Type
- Description

1.1 Discrete Name

The name of the discrete shall be that as utilized within the interconnect, reference Sec. 4.0.

1.2 LRU Pin Number

The LRU pin number shall be repeated here for the sake of being complete.

1.3 Discrete Type

Discrete Inputs

All of the discrete inputs shall have one of the types as described below.

- Gnd/Open Type A

  Gnd

  Vin $\leq$ 1.5 V dc
  Isink $\geq$ 4 uAdc

- 28 V dc/Open Type A

  28 V dc

  Vin $\geq$ 18 V dc
  Isource $\leq$ 180 uAdc

  Open

  Vin $\leq$ 4.5 V dc

Discrete Outputs

All of the discrete outputs shall have one of the types as described below:

- Gnd/Open Type A

  Gnd
  Isink ≤ 200 mAdc

- Gnd/Open Type B

  Gnd
  Isink ≤ 80 mAdc

- Gnd/Open Type C

  Gnd
  Isink ≤ 20 mAdc

- Gnd/Open Type D

  Gnd
  Isink ≤ 50 mAdc

- 28 V dc/Open Type A

  28 V dc
  Isource ≤ 100 mAdc

- 28 V dc/Open Type B

  28 V dc
  Isource ≤ 1.0 Adc

- 28 V dc/Open Type C

  28 V dc
  Isource ≤ 1.5 Adc

1.4 Discrete Description

A brief description of each discrete shall be provided.

Interconnect Information
Table 501 (cont)

9. DADC Discrete Summary

Discrete Inputs

Baro Disable 9/C9J1A-38

Gnd/Open Type A

Ground = Disables Barometric Correction
Open = Normal Operation

SSEC Disable 9/C9J1A-39

Gnd/Open Type A

Ground = Disables Static Source Error Correction
Open = Normal Operation

DADC Self Test 9/C9J1A-52

Gnd/Open Type A

Ground = Selects DADC Self Test
Open = Normal Operation

Flap Position No. 1,2,3,4 9/C9J1A-55, 56, 57, 58

Gnd/Open Type A

Flaps	55	56	57	58
0	Gnd	Open	Open	Open
10	Open	Gnd	Open	Open
20	Open	Open	Gnd	Open
39	Open	Open	Open	Gnd

Interconnect Information
Table 501 (cont)

Alerter Select 9/C9J1A-93

Gnd/Open Type A

Ground = Copilot DADC is Master
Open = Pilot DADC is Master

Plt/Cplt Select 9/C9JA-100

Gnd/Open Type A

Ground = Copilot
Open = Pilot

Aircraft ID 9/C9J1A-101,102,103,104,105,107

Gnd/Open Type A

	101	102	103	104	105	106
G-IV Application	Gnd	Open	Open	Gnd	Open	Gnd
CAA Application	Gnd	Gnd	Gnd	Gnd	Open	Gnd

Discrete Outputs

Altitude Valid 9/C9J1A-34

28 V dc/Open Type A

28 V dc = Altitude Output is Valid
Open = Altitude Output is Invalid

Cabin Pressure Valid 9/CJ1A-66

Gnd/Open Type B

Ground = Cabin Pressure is Valid
Open = Cabin Pressure is Invalid

Interconnect Information
Table 501 (cont)

Altitude Switch (no)	9/C9J1A-77
Altitude Switch (c)	9/c9J1A-80

200 mA dc Inductive Load
600 mA dc Resistive Load

Continuity between 9/C9J1A-77 and -80 when ascending through 42,000 ft. Open when descending through 40,000 ft.

Overspeed Warning	9/C9J1A-85

28 V dc/Open Type C

28 V dc = Indicated Airspeed in excess of Vmo
Open = Normal Operation

AOA Test	9/C9J1A-92
AOA Test (SL)	9/C9J1A-97
AOA Test (15000)	9/C9J1A-98

Gnd/Open Type A

Ground = AOA Test Active
Open = Normal Operation

AOA Indexer (Red)	9/C9J1A-94
AOA Indexer (Green)	9/C9J1A-95
AOA Indexer (Amber)	9/C9J1A-96

Gnd/Open Type B

Ground = Respective Indexer is to be active
Open = Indexer is to be off

Altitude Alert Horn	9/C9J1B-49

28 V dc/Open Type A

28 V dc = Altitude Alert
Open = Annun Change Normal Operation

Provides a 2.0 second duration pulse to alert the flight crew to an Altitude Alert

Interconnect Information
Table 501 (cont)

Altitude Alert Annun 9/C9J1B-75

Gnd/Open Type A

Ground = Master Altitude Preselect Error is within the specified limits
Open = Normal Operation

The specified Altitude Preselect error limits are:

o When capturing an altitude

250 ft < Alt Preselect Error < 1000 ft

o When departing an altitude

Alt Preselect Error > 250 ft.

Altitude Alert Horn 9/C9J1B-76

Gnd/Open Type C

Ground = Altitude Alert Annun Change
Open = Normal Operation

Provides a 0.75 second duration pulse to alert the Flight Crew to an Altitude Alert.

Interconnect Information
Table 501 (cont)

10. FGC Discrete Summary

Discrete Inputs

Stick Shaker Active 10/C10J1A-28

28 V dc/Open Type A

28 V dc = Stick Shaker Active (Disengage Autopilot)
Gnd = Normal Operation

Yaw Damper Engage/Disengage 10/C10J1A-40

Gnd/Open Type A

Open to Gnd Transition = Engage/Disengage Toggle

Reference Appendix D

Trim Engage/Disengage 10/C10J1A-41

Gnd/Open Type A

Open to Gnd Transition = Engage/Disengage Toggle

Reference Appendix D

Aircraft ID 10/C10J1B-76,77,78,79,80,81

Gnd/Open Type A

	76	77	78	79	80	81
G-IV Application	Open	Open	Open	Gnd	Open	Gnd

Interconnect Information
Table 501 (cont)

Miscompare #1, #2 10/C10J1B-95, 96

Gnd/Open Type A

Ground = Miscompare
Open = No miscompare

NOTE: These two pins are Installation Critical. Please see note on Page 3-13.

Rad Alt Format 10/C10J1B-99,100

Gnd/Open Type A

	99	100
Sperry Rad Alt	Open	Open
ARINC 552	Open	Gnd
Collins ALT 50	Gnd	Open
Collins ALT 55	Gnd	Gnd

Pilot/Copilot I.D. #1, #2 10/C10J1B-102,103

Ground/Open Type A

	102	103
Pilot	Gnd	Open
Copilot	Open	Gnd

End Item Test 10/C10J1B-104

Gnd/Open Type A

Ground = End Item Test Enable
Open = Normal Configuration

For Factory Use Only

Interconnect Information
Table 501 (cont)

Autopilot Disconnect	10/C10J2B-54

Gnd/Open Type A

Ground = Normal Operation
Open = Disconnects the Autopilot

Reference Appendix D

Emergency Disconnect	10/C10J2B-65

28 V dc/Open Type A

28 V dc = Enables Normal AP/YD/MT Engagement
Open = Disconnects AP/YD/MT

This discrete is utilized to ensure that the AFGCS servos are completely disconnected when the FGC losses power.

Trim Disconnect	10/C10J2B-66

Gnd/Open Type A

Ground = Normal Operation
Open = Disconnects the Trim

Yaw Damper Disconnect	10/C10J2B-67

Gnd/Open Type A

Ground = Normal Operation
Open = Disconnects the Yaw Damper

Test Signal Enable	10/C10J2B-68

Gnd/Open Type A

Ground = Enables Test Signals
Open = Normal Operation

Flight Test Use Only

Interconnect Information
Table 501 (cont)

FTIU Installed 10/C10J2B-69

Gnd/Open Type A

Ground = Enables FGC Interaction with the FTIU
Open = Normal Operation

Flight Test Use Only

Speed Brake 10/C10J2B-72

Gnd/Open Type A

Ground = Speed Brakes Deployed
Open = Normal Operation

Weight On Wheels (WOW) 10/C10J2B-74

Gnd/Open Type A

Ground = Aircraft on the Ground
Open = Aircraft is Airborne

Gear Down 10/C10J2B-78

Gnd/Open Type A

Ground = Gear Down
Open = Gear Retracted

Maintenance Test Enable 10/C10J2B-79

Gnd/Open Type A

Ground = Enables Maintenance Test
Open = Normal Operation

Maintenance Test is controlled via the Display Controller.

Interconnect Information
Table 501 (cont)

Power Up Reset 10/C10J2B-82

Gnd/Open Type A

Ground = FGC Reset
Open = Normal Operation

Discrete Outputs

Priority Status #1 10J1A-37

28 V dc/Open Type A

28 V dc = FGC #1 has Priority
Open = FGC #1 does not have Priority

Priority Status #2 C10J1A-37

28 V dc/OPen Type A

28 V dc = FGC #2 has Priority
Open = FGC #2 does not have Priority

Yaw Damper Disengage Annun 10/C10J2B-53

28 V dc/Open Type A

28 V dc = Yaw Damper Disengaged
Open = Yaw Damper Engaged

Reference Appendix D

Trim Disengage Annun 10/C10J2B-81

28 V dc/Open Type A

28 V dc = Trim Disengaged
Open = Trim Engaged

Reference Appendix D

Interconnect Information
Table 501 (cont)

CPL Select Out 10/C10J2B-88

Gnd/Open Type D

Ground = Copilot CPL is Active
Open = Pilot CPL is Active

Interconnect Information
Table 501 (cont)

11. Guidance Panel Discrete Summary

Discrete Inputs

Subtest Select 11J1/11J2-35

Gnd/Open Type A

Ground = Maintenance Test "Select" Button Pushed
Open = Normal Operation

Maintenance Test Sel 11J1/11J2-58

Gnd/Open Type A

Ground = FGC Selected for Maintenance Test
Open = Normal Operation

Lamp Test No. 1 11J1-64

Gnd/Open Type A

Ground = All Annunciator Lamps on for 30 sec at Current Dimming Control Level
Open = Normal Operation

Priority Status #1 11J1-70

28 V dc/Open Type A

28 V dc = FGC #1 has Priority
Open = FGC #1 does not have Priority

Weight On Wheels (WOW) 11J1-71

Gnd/Open Type A

Ground = Aircraft on the Ground
Open = Aircraft is Airborne

Reference Appendix D

Interconnect Information
Table 501 (cont)

Take Off/Go Around (TOGA) 11J1-72/11J2-54

Gnd/Open Type A

Momentary ground to open transition toggles the TOGA mode logic between engaged and disengaged.

The WOW discrete is utilized to determine whether a Take Off or Go Around is desired.

Reference Appendix D.

Touch Control Steering (TCS) 11J1-74/11J2-53

Gnd/Open Type A

Ground = Selects TCS Operation
Open = Normal Operation

Reference Appendix D

Autopilot Disconnect 11J1/J2-77

Gnd/Open Type A

Ground = Normal Operation
Open = Disconnects the Autopilot

Reference Appendix D

Yaw Damper Engage/ Disengage 11J1/J2-78

Gnd/Open Type A

Momentary ground to open transition toggles the Yaw Damper between engaged and disengaged.

Reference Appendix D

Interconnect Information
Table 501 (cont)

Trim Engage/Disengage 11J1/J2-79

Gnd/Open Type A

Momentary ground to open transition toggles the trim system between engaged and disengaged.

Reference Appendix D

Lamp Test No. 2 11J2-64

Gnd/Open Type A

Ground = All Annunciator Lamps on for 30 sec at Current Dimming Control Level
Open = Normal Operation

Priority Status #2 11J2-70

28 V dc/Open Type A

28 V dc = FGC #2 has Priority
Open = FGC #2 does not have Priority

Discrete Outputs

GS/EL Active Gnd 11J1/J2-11

Gnd/Open Type A

Ground = Approach Captured
Open = Normal Operation

Backcourse Active Gnd 11J1/J2-14

Gnd/Open Type A

Ground = Backcourse Captured
Open = Normal Operation

Interconnect Information
Table 501 (cont)

Autopilot Disengage 11J1-39

Gnd/Open Type A

Ground = AP Disengagement (1.0 Second)
Open = Normal Operation

Yaw Damper Disengage 11J1-40
Annun Gnd

Gnd/Open Type A

Ground = Automatic YD Disengagement
Open = Normal Operation

Trim Disengage Annun 11J1-41
Gnd

Gnd/Open Type A

Ground = Automatic Trim Disengagement
Open = Normal Operation

Autopilot Mistrim Annun 11J1-42
Gnd

Gnd/Open Type A

Ground = Elevator Mistrim
Open = Normal Operation

Interconnect Information
Table 501 (cont)

20. Rad Alt Discrete Summary

Discrete Inputs

Test Inhibit 20/C20J1-D

Gnd/Open Type A

Ground = Inhibit Rad Alt Test
Open = Normal Operation

Test 20/C20J1-T

Gnd/Open Type A

Ground = Rad Alt Test
Open = Normal Operation

Discrete Outputs

Track Invalid 20/C20J1-F

Gnd/Open Type A

Ground = Rad Alt Unlock (no delay)
Open = Normal Operation

Alt Trip (400 ft) 20/C20J1-L
Alt Trip (50 ft) 20/C20J1-R
Alt Trip (1200 ft) 20/C20J1-U
Alt Trim (250 ft) 20/C20J1-V

Gnd/Open Type A

Ground = Altitude Trip
Open = Normal Operation

Rad Alt Valid 20/C20J1-Y

28 V dc/Open Type A

28 V dc = Rad Alt Valid
Open = Rad Alt Invalid

Interconnect Information
Table 501 (cont)

59. Weather Radar R/T/A Discrete Summary

Discrete Inputs

WX ON 59J1-U

Gnd/Open Type A

Ground = P870 WX System Energized
Open = P870 WX System Turned Off

REACT Compensation 59J1-R

Gnd/Open Type A

Ground = REACT manually selectable on WC
Open = REACT mode on when WX selected

Discrete Outputs

The WX R/T/A does not provide any discrete outputs that are installation variable.

61. WX Controller Discrete Summary

Discrete Inputs

Forced Standby 61/C61J1-P

Gnd/Open Type A

Ground = Forced Standby
Open = Normal Operation

Program Range A	61/C61J2-J
Program Range B	61/C61J2-K
Program Range C	61/C61J2-L
Program Range D	61/C61J2-M
Program Range Comm	61/C61J2-N

Gnd/Open Type A

Range (nmi)	D	C	B	A
0.5	Open	Open	Open	Gnd
1.0	Open	Open	Gnd	Open
2.5	Gnd	Gnd	Gnd	Gnd
5.0	Gnd	Gnd	Gnd	Open
10	Gnd	Gnd	Open	Gnd
25	Gnd	Gnd	Open	Open
50	Gnd	Open	Gnd	Gnd
100	Gnd	Open	Open	Open
150	Open	Open	Gnd	Gnd
200	Gnd	Open	Open	Gnd
300	Gnd	Open	Gnd	Open
500	Open	Gnd	Open	Open
1000	Open	Gnd	Open	Gnd
2000	Open	Gnd	Gnd	Open

NOTE: Program Range Pins must be grounded by using the Program Range Comm (61/C61J2-N). These pins must not be tied to Aircraft Gnd.

Interconnect Information
Table 501 (cont)

ID Program Pin 61/C61J2-S

Gnd/Open Type A

Short to C61J2-R for WXC #2
Open = WXC #1

Discrete Outputs

Range A	61/C61J2-A
Range B	61/C61J2-B
Range C	61/C61J2-C
Range D	61/C61J2-D

Gnd/Open Type A

Provides encoded WX Range per the range select knob or per 61/C61J2-J/K/L/M when FPLN is selected.

FPLN 61/C61J2-E

Gnd/Open Type A

Ground = Flight Plan Mode Selected
Open = Normal Operation

Interconnect Information
Table 501 (cont)

65. Symbol Generator (SG) Discrete Summary

Discrete Inputs

SG Identifiers ----- SG ID A 65/C65/E65J1A-11
----- SG ID B 65/C65/E65J1A-12
----- SG ID C 65/C65/E65J1B-27

Gnd/Open Type A

	11	12	27	SG Position
G-IV Application	Gnd	Open	Open	SG1
	Open	Gnd	Open	SG2
	Gnd	Gnd	Gnd	SG3

TCAS Installed 65/C65/E65J1A-14

Gnd/Open Type A

Ground = TCAS Installed
Open = TCAS not Installed

LX Power On 65/C65/E65J1A-15

Gnd/Open Type A

Ground = LX System Energized
Open = LX System Turned Off

P870 Installed 65/C65/E65J1A-20

Gnd/Open Type A

Ground = P870 WX System Installed
Open = P800 WX System Installed

Mach Tape Disable 65/C65/E65J1A-25

Gnd/Open Type A

Ground = Disables Mach Tape on PFD
Open = Allows Airspeed Tape on PFD to transition to a Mach Tape

Interconnect Information
Table 501 (cont)

ILS/MLS* #1 SEL 65/C65/E65J1A-26

Gnd/Open Type A

Ground = MLS #1 Selected
Open = ILS #1 Selected

FPLN SEL 65/C65/E65J1A-27

Gnd/Open Type A

Ground = Flight Plan Mode Selected
Open = Normal Operation

Reference Appendix D

Interconnect Information
Table 501 (cont)

Range Select A, B, C, D 65/C65/E65J1A-28, 29, 30, 31

Gnd/Open Type A

RANGE (nmi)	RNG SEL D	RNG SEL C	RNG SEL B	RNG SEL A
0.5	Gnd	Gnd	Gnd	Open
1.0	Gnd	Gnd	Open	Gnd
2.5	Open	Open	Open	Open
5	Open	Open	Open	Gnd
10	Open	Open	Gnd	Open
25	Open	Open	Gnd	Gnd
50	Open	Gnd	Open	Open
100	Open	Gnd	Gnd	Gnd
150	Gnd	Gnd	Open	Open
200	Open	Gnd	Gnd	Open
300	Open	Gnd	Open	Gnd
500	Gnd	Open	Gnd	Gnd
1000	Gnd	Open	Gnd	Open
2000	Gnd	Open	Open	Gnd
UNDEF	Gnd	Gnd	Gnd	Gnd
UNDEF	Gnd	Open	Open	Open

Reference Appendix D

Interconnect Information
Table 501 (cont)

SG PWR DN 65/C65/E65J1A-59

Gnd/Open Type A

Ground = SG Powered Down
Open = SG Power Up

SG1 REV 65/C65/E65J1A-60

Gnd/Open Type A

Ground = SG1 Rev
Open = Normal Operation

SG2 REV 65/C65/E65J1A-61

Gnd/Open Type A

Ground = SG2 Rev
Open = Normal Operation

SG3 REV 65/C65/E65J1A-62

Gnd/Open Type A

Ground = SG3 Rev
Open = Normal Operation

DU1 REV 65/C65/E65J1A-63

Gnd/Open Type A

Ground = DU1 Rev
Open = Normal Operation

DU3 REV 65/C65/E65J1A-64

Gnd/Open Type A

Ground = DU3 Rev
Open = Normal Operation

Interconnect Information
Table 501 (cont)

DU4 REV 65/C65/E65J1A-65

Gnd/Open Type A

Ground = DU4 Rev
Open = Normal Operation

DU6 REV 65/C65/E65J1A-66

Gnd/Open Type A

Ground = DU6 Rev
Open = Normal Operation

LX Installed 65/C65/E65J1A-67

Gnd/Open Type A

Ground = LX System Installed
Open = LX System Not Installed

BC I.D. A,B 65/C65/E65J1B-11,12

Gnd/Open Type A

	11	12	Result
G-IV Application	Open	Open	Undefined
	Gnd	Open	BC1
	Open	Gnd	BC2
	Gnd	Gnd	BC3

WX ON 65/C65/E65J1B-20

Gnd/Open Type A

Ground = P870 WX System Energized
Open = P870 WX System Turned Off

Interconnect Information
Table 501 (cont)

Comparator Monitor Disabled 65/C65/E65J1B-25

Gnd/Open Type A

Ground = Comparator Monitor Disabled
Open = Comparator Monitor Enabled

Interconnect Information
Table 501 (cont)

ILS/MLS* #2 SEL 65/C65/E65J1B-26

Gnd/Open Type A

Ground = MLS #2 Selected
Open = ILS #2 Selected

Weight on Wheels (WOW) 65/C65/E65J1B-54

Gnd/Open Type A

Ground = Aircraft on Ground
Open = Aircraft Airborne

Joystick Fore 65/C65/E65J1B-55

Gnd/Open Type A

Ground = Fore Position
Open = Neutral Position

Joystick Aft 65/C65/E65J1B-56

Gnd/Open Type A

Ground = Aft Position
Open = Neutral Position

Joystick Lt 65/C65/E65J1B-57

Gnd/Open Type A

Ground = Left Position
Open = Neutral Position

Joystick Rt 65/C65/E65J1B-58

Gnd/Open Type A

Ground = Right Position
Open = Neutral Position

Interconnect Information
Table 501 (cont)

Joystick Enter 65/C65/E65J1B-59

Gnd/Open Type A

Ground = Enter Initiated
Open = No Command

Joystick Clear 65/C65/E65J1B-60

Gnd/Open Type A

Ground = Clear Joystick to Preset Position
Open = No Command

WX Fault 65/C65/E65J1B-61

Gnd/Open Type A

Ground = Fault
Open = Normal Operation

Reference Appendix D

WX Target Alert 65/C65/E65J1B-62

Gnd/Open Type A

Ground = Target Alert
Open = Normal Operation

Reference Appendix D

Maintenance Test Enable 65/C65/E65J1B-66

Gnd/Open Type A

Ground = Maintenance Test Enabled
Open = Normal Operation

Reference Appendix D

Interconnect Information
Table 501 (cont)

Discrete Outputs

BC Valid 65/C65/E65J1A-13

Gnd/Open Type A

Ground = Bus Controller Valid
Open = Bus Controller Invalid

SG Valid 65/C65/E65J1B-51

Gnd/Open Type A

Ground = SG Valid
Open = SG Invalid

SG Overtemp 65/C65/E65J1B-52

Gnd/Open Type A

Ground = SG Overtemp
Open = Normal Operation

Below Decision Height (DH) 65/C65/E65J1B-53

Gnd/Open Type A

Ground = True
Open = Normal Operation

CS HDG SRC 65/C65/E65J1B-65

Gnd/Open Type A

Ground = Cross-Side Heading Source Displayed on PFD
Open = Normal Operation

Interconnect Information
Table 501 (cont)

115. Display Controller (DC) Discrete Summary

Discrete Inputs

Day/Night 115/C115J1-X

28 V dc/Open Type A

28 V dc = Night
Open = Day

FGC Left Priority 115/C115J1-a

28 V dc/Open Type A

28 V dc = Left FGC has Priority
Open = Left FGC does not have Priority

FGC Right Priority 115/C115J1-b

28 V dc/Open Type A

28 V dc = Right FGC has Priority
Open = Right FGC does not have Priority

ARINC ILS 115/C115J1-c

Gnd/Open Type A

Ground = ARINC ILS Installed
Open = ARINC ILS not Installed

MLS Installed 115/C115J1-d

Gnd/Open Type A

Ground = MLS Installed
Open = MLS not Installed

Interconnect Information
Table 501 (cont)

Windshear Computer Installed   115/C115J1-f

Gnd/Open Type A

Ground = Windshear Computer is Installed.

Open = Windshear Computer is not Installed.

Pilot/Copilot   115/C115J1-g

Gnd/Open Type A

Ground = Copilot
Open = Pilot

IRS Triplex/Dual   115/C115J1-h

Ground = Dual
Open = Triplex

LTRK Installed   115/C115J1-i

Ground = LTRK Installed
Open = LTRK not Installed

TCAS Installed   115/C115J1-j

Gnd/Open Type A

Ground = TCAS Installed
Open = TCAS not Installed

Weight on Wheels (WOW)   115/C115J1-k

Gnd/Open Type A

Ground = Aircraft on Ground
Open = Aircraft Airborne

TCAS RA   115/C115J1-m

Gnd/Open Type A

Ground = TCAS RA, select TCAS system page
Open = Normal

Interconnect Information
Table 501 (cont)

Emergency Checklist Select   115/C11J1-p

Gnd/Open Type A

Ground = Emer Checklist Selected
Open = Normal

Checklist Installed   115/C115J1-q

Gnd/Open Type A

Ground = Checklist Installed
Open = Checklist not Installed

Maint. Test Enable   115/C115J1-AA

Gnd/Open Type A

Ground = Maintenance Test Enabled
Open = Normal Operation

Lamp Test   115/C115J1-DD

Gnd/Open Type A

Ground = Initiate Test of all Annunciators
Open = Normal Operation

Discrete Outputs

Subtest Select   115/C115J1-v

Gnd/Open Type A

Ground = Maintenance Test "Select" Button Pushed
Open = Normal Operation

FGC Right Priority Select 115/C115J1-z

Gnd/Open Type A

Momentary Ground = Right FGC Priority Select
Open = Normal

Interconnect Information
Table 501 (cont)

ILS/MLS Select Out 115/C115J1-FF

Gnd/Open Type A

Ground = MLS Selected
Open = ILS Selected

NAV Retune 115/C115J1-GG

Gnd/Open Type A

Momentary Ground (500 ± 50 msec) =
DME is retuned by the
NAV control
Open = Normal

FGC Left Priority Select 115/C115J1-HH

Gnd/Open Type A

Momentary Ground = Left FGC Priority Select
Open = Normal

Interconnect Information
Table 501 (cont)

120. CDU Discrete Summary

Discrete Inputs

Lamp Test 120/C120J1-s

Gnd/Open Type A

Ground = Lamp Test
Open = Normal Operation

All annunciators test to level of dim control.

Annun Lighting Bright/Dim 120/C120J1-v

28V dc/Open Type A

28 V dc = Dim
Open = Bright

Test Enable 120/C120J1-EE

Gnd/Open Type A

Ground = Enables Maintenance Test
Open = Normal Operation

Discrete Outputs

The CDU does not provide any discrete outputs that are installation variable.

Interconnect Information
Table 501 (cont)

121. Nav Computer Discrete Summary

Discrete Inputs

Clockless ASCB 121/C121J1A-14

Gnd/Open Type A

Ground = Clockless ASCB
Open = Clocked ASCB

ARINC 429 Bus Speed 121/C121J1A-47, 48, 49

Gnd/Open Type A

Ground = Low Speed
Open = High Speed

Long Term Sensor (LTS) 121/C121J1B-59, 60
Port No. 1

Gnd/Open Type A

LTS Type	59	60
	Open	Open
No. 1	Open	Gnd
No. 2	Gnd	Open
No. 3	Gnd	Gnd

Long Term Sensor (LTS) 121/C121J1B-61, 62
Port No. 2

Gnd/Open Type A

LTS Type	61	62
	Open	Open
No. 1	Open	Gnd
No. 2	Gnd	Open
No. 3	Gnd	Gnd

Interconnect Information
Table 501 (cont)

Long Term Sensor (LTS) 121/C121J1B-63, 64
Port No. 3

Gnd/Open Type A

LTS Type	63	64
	Open	Open
No. 1	Open	Gnd
No. 2	Gnd	Open
No. 3	Gnd	Gnd

Version B ASCB 121/C121J1B-67

Gnd/Open Type A

Ground = Version B ASCB
Open = Version A ASCB

Operational Mode 121/C121J1B-71, 92

Gnd/Open Type A

	ID0 (J1B-71)	ID1 (J1B-92)
Initiated XFER/Dual Operation	Open	Open
Single Operation	Gnd	Open
Independent Operation	Open	Gnd
CDU Mode Control	Gnd	Gnd

Interconnect Information
Table 501 (cont)

Weight On Wheels (WOW)   121/C121J1B-72

Gnd/Open Type A

Ground = Aircraft on the Ground
Open = Aircraft is Airborne

Perf Computer Installed   121/C121J1B-73

Gnd/Open Type A

Ground = Perf Computer Installed
Open = Perf Computer not Installed

Long Term Sensor (LTS)   121/C121J1B-74, 75, 76
No. 1 Configuration

Gnd/Open Type A

LTS No. 1 Type	74	75	76
Port not used	Open	Open	Open
IRU	Open	Open	Gnd
Omega	Open	Gnd	Open
Loran C	Open	Gnd	Gnd
GPS	Gnd	Open	Open

Long Term Sensor (LTS)   121/C121J1B-77, 78, 79
No. 2 Configuration

Gnd/Open Type A

LTS No. 2 Type	77	78	79
Port not used	Open	Open	Open
IRU	Open	Open	Gnd
Omega	Open	Gnd	Open
Loran C	Open	Gnd	Gnd
GPS	Gnd	Open	Open

Interconnect Information
Table 501 (cont)

Data Loader Connected 121/C121J1B-83

Gnd/Open Type A

Ground = Data Loader Connected
Open = Not Connected

Radio Config 121/C121J1B-84, 85, 86

Gnd/Open Type A

Radio Type	84	85	86
King 429	Open	Open	Open
Collins 429	Gnd	Open	Open
Sperry ASCB	Open	Gnd	Open
Collins 422	Gnd	Gnd	Gnd

Maintenance Test 121/C121J1B-87

Gnd/Open Type A

Ground = Maintenance Test Enabled
Open = Not Enabled

ILS/MLS Select 121/C121J1B-88

Gnd/Open Type A

Ground = ILS Data
Open = MLS Data

Interconnect Information
Table 501 (cont)

Long Term Sensor (LTS) No. 3 Configuration — 121/C121J1B-89, 90, 91

Gnd/Open Type A

LTS No. 3 Type	89	90	91
Port not used	Open	Open	Open
IRU	Open	Open	Gnd
Omega	Open	Gnd	Open
Loran C	Open	Gnd	Gnd
GPS	Gnd	Open	Open

Initiated Transmit — 121/C121J1B-93

Gnd/Open Type A

Ground = Transmit Data
Open = Brickwall

Reference Appendix D

Initiated Receive — 121/C121J1B-94

Gnd/Open Type A

Ground = Receive Data
Open = Brickwall

Reference Appendix D

Interconnect Information
Table 501 (cont)

DME Scanning Type 121/C121J1B-95

Gnd/Open Type A

Ground = DME; Scanning Type
Open = DME; Single Mode

Radio Bus Type 121/C121J1B-96

Gnd/Open Type A

Ground = RS-422
Open = ARINC 429

Single ASCB 121/C121J1B-97

Gnd/Open Type A

Ground = Single ASCB
Open = Dual ASCB

Source/Destination ID 121/C121J1B-98, 99, 65

Gnd/Open Type A

NAV Computer Configuration	SDI #1 98	SDI #2 99	SDI #3 65
Reserved	Open	Open	Open
Center	Open	Open	Gnd
Right	Open	Gnd	Open
Reserved	Open	Gnd	Gnd
Left	Gnd	Open	Open
Reserved	Gnd	Open	Gnd
Reserved	Gnd	Gnd	Open
Reserved	Gnd	Gnd	Gnd

CDU Valid 121/C121J1B-100

Gnd/Open Type A

Ground = Normal Operation
Open = CDU Failure

Interconnect Information
Table 501 (cont)

Heading Reference Select 121/C121J1B-101

Gnd/Open Type A

Ground = Heading Ref; True Reference
Open = Heading Ref; Magnetic Reference

AFIS Installed 121/C121J1B-102

Gnd/Open Type A

Ground = AFIS Enabled
Open = Not Enabled

Overspeed Protection Disabled 121/C121J1B-103

Gnd/Open Type A

Ground = Overspeed Protection Disabled
Open = Overspeed Protection Enabled

RS 422 Offside VOR Connected 121/C121J1B-104

Gnd/Open Type A

Ground = Offside VOR Connected
Open = offside VOR not Connected

Secondary NAV/DME Manual Tune 121/C121J1B-105

Gnd/Open Type A

Ground = Manual Tune Only
Open = FMS Tuning Enabled

Primary NAV/DME Manual Tune 121/C121J1B-106

Gnd/Open Type A

Ground = Manual Tune Only
Open = FMS Tuning Enabled

Interconnect Information
Table 501 (cont)

Discrete Outputs

True/Mag Select 121/C121J1B-37

Gnd/Open Type A

Ground = True
Open = Mag

Onside Tune Control (Autotune) 121/C121J1B-38

Gnd/Open Type A

Ground = Nav Tuning is auto controlled
Open = Nav Tuning is controlled by pilot

Remote Tuning Control 121/C121J1B-39

Gnd/Open Type A

Ground = Nav Tuning is Remote Controlled
Open = Nav Tuning is NOT Remote Controlled

Lateral Waypoint 121/C121J1B-40

Gnd/Open Type A

Ground = Lateral Waypoint Alert
Open = Normal Operation

Interconnect Information
Table 501 (cont)

Vertical Waypoint 121/C121J1B-41

Gnd/Open Type A

Ground = Vertical Waypoint Alert
Open = Normal Operation

Dead Reckoning 121/C121J1B-42

Gnd/Open Type A

Ground = Dead Reckoning Mode Enabled
Open = Normal Navigation

Offset Alert 121/C121J1B-43

Gnd/Open Type A

Ground = Offset Alert
Open = Normal Operation

Approach Sensitivity 121/C121J1B-44

Gnd/Open Type A

Ground = Approach Sensitivity Enabled
Open = Normal Sensitivity

Independent Operation 121/C121J1B-45

Gnd/Open Type A

Ground = Independent Operation
Open = Normal Operation

CDU Message 121/C121J1B-46

Gnd/Open Type A

Ground = CDU Message Alert
Open = No CDU Message

Interconnect Information
Table 501 (cont)

Degrade Accuracy 121/C121J1B-47

Gnd/Open Type A

Ground = The FMS is in a degrade mode of operation and cannot guarantee the required accuracy for the present phase of flight, with the available position sensors.
Open = Normal operation

Nav Computer Valid 121/C121J1B-49

Gnd/Open Type A

Ground = Nav Computer Valid
Open = Nav Computer Invalid

Vertical Track Aural 121/C121J1B-53

Gnd/Open Type A

Ground = Alert (double pulsed ground)
Open = Normal Operation

Cross side Tuning Control (Autotune) 121/C121J1B-54

Gnd/Open Type A

Ground = Cross side Nav tuning is auto controlled
Open = Cross side Nav tuning is controlled by pilot

Interconnect Information
Table 501 (cont)

122. Perf Computer Discrete Summary

Discrete Inputs

Maintenance Test Enable 122/C122J1A-50

Gnd/Open Type A

Ground = Maintenance Test Enabled
Open = Normal Operation

Gear Down 122/C122J1A-54

Gnd/Open Type A

Ground = Gear Down
Open = Gear Retracted

Left/Right Select 122/C122J1A-59

Gnd/Open Type A

Ground = Right Performance/Autothrottle Computer
Open = Left Performance/Autothrottle Computer

Version A/B 122/C122J1A-60

Gnd/Open Type A

Ground = ASCB Version B
Open = ASCB Version A

Left Bleed Source On 122/C122J1A-62

Gnd/Open Type A

Ground = Left Bleed Source On
Open = Left Bleed Source Off

Interconnect Information
Table 501 (cont)

Right Bleed Source On   122/C122J1A-63

Gnd/Open Type A

Ground = Right Bleed Source On
Open = Right Bleed Source Off

ASCB Single/Dual   122/C122J1A-66

Gnd/Open Type A

Ground = Dual
Open = Single

Flaps In Motion   122/C122J1A-72

28 V dc/Open Type A

28 V dc = Flaps In Motion
Open = Flaps not In Motion

Left AC Pack On/Off   122/C122J1A-73

28 V dc/Open Type A

28 V dc = Left AC Pack On
Open = Left AC Pack Off

Right AC Pack On/Off   122/C122J1A-74

28 V dc/Open Type A

28 V dc = Right AC Pack On
Open = Right AC Pack Off

Weight On Wheels (WOW)   122/C122J1A-75

Gnd/Open Type A

Ground = Aircraft on the Ground
Open = Aircraft is Airborne

Interconnect Information
Table 501 (cont)

A/T Engage/Disengage 122/C122J1A-81

Gnd/Open Type A

Momentary transition between open and ground toggles the A/T between engaged and disengaged.

Reference Appendix D

PZ Interlock #1, 2, 3, 4 122/C122J1B-87, 88, 89, 90

Gnd/Open Type A

The table below identifies the strapping requirements for the various certification agencies along with the corresponding CDU identifier.

Pin #1 (J1B-87)	Pin #2 (J1B-88)	Pin #3 (J1B-89)	Pin #4 (J1B-90)	Certification Type	CDU Ident
Open	Open	Open	Gnd	FAA/Brunei	A-
Open	Open	Gnd	Open	DOT/DGAC	B-
Open	Open	Gnd	Gnd	CAA	C-
Open	Gnd	Open	Open	Austrailia	D-
Open	Gnd	Open	Gnd	Generic JAR	E-
Open	Gnd	Gnd	Open	Special Mission	F-

A/T Disengage 122/C122J1B-91

Gnd/Open Type A

Ground = Normal Operation
Open = Disengage Autothrottle

Discrete Outputs

The Perf Computer contains no aircraft variable discrete outputs.

Interconnect Information
Table 501 (cont)

123. Data Loader Discrete Summary Discrete Inputs

Discrete Inputs

The Data Loader does not provide any discrete inputs that are installation variable.

Discrete Outputs

The Data Loader does not provide any discrete outputs that are installation variable.

Interconnect Information
Table 501 (cont)

130. Display Unit (DU) Discrete Summary

DU PWR DN   130/C130/131/C131/132/133J1-22

Gnd/Open Type A

Ground = DU Powered Down
Open = DU Power Up

Port Sel A/B   130/C130/131/C131/132/133J1-87/88

Gnd/Open Type A

Du Input Port	Port Sel A	Port Sel B
Primary Port	Open	Open
1st Alternate	Gnd	Open
2nd Alternate	Open	Gnd
3rd Alternate	Gnd	Gnd

DU Address Select   130/C130/131/C131/132/133J1-90/91

The Display Units each have an address that defines its location within the cockpit. The SG transmits format data (i.e.: PFD, ND) to a specific DU address. This allows the SG to implement reversionary format switching with no switching intelligence required by the DU.

The DU address shall be defined by the ID discretes as illustrated in Table 8.3.3 below.

G-IV	ID #1 J1-90	ID #2 J1-91
DU 1/6	Open	Open
DU 2/5	Gnd	Open
DU 3	Open	Gnd
DU 4	Gnd	Gnd

Interconnect Information
Table 501 (cont)

Software Enable   130/C130/131/C131/132/133J1-99, 100

Gnd/Open Type A

Ground = Software Enable
Open = Normal Operation

Flight Test Only

Discrete Outputs

The DU contains no aircraft variable discrete outputs.

Interconnect Information
Table 501 (cont)

134. Fault Warning Computer (FWC) Discrete Summary

Discrete Inputs

Keying Pins 1 thru 5 134/C134J1A-12,13,14,15,16

Gnd/Open Type A

	12	13	14	15	16
G-IV	Gnd	Open	Gnd	Open	Gnd

Warn Reset 134/C134J1A-23

Gnd/Open Type A

Ground = Master Warn Reset
Open = Normal Operation

Caution Reset 134/C134J1A-24

Gnd/Open Type A

Ground = Master Caution Reset
Open = Normal Operation

Voice Recorder Fail 134/C134J1A-25

Gnd/Open Type A

Ground = Normal Operation
Open = Voice Recorder Fail

Steer by Wire Fail 134/C134J1A-26

Gnd/Open Type A

Ground = Steer by Wire Fail
Open = Normal Operation

NOTE: 'AND' with GEAR DOWN discrete (134/C134J1A-67) for message enable.

Interconnect Information
Table 501 (cont)

AHRS Cool Fail 134/C134J1A-27

Gnd/Open Type A

Ground = Cool Fail
Open = Normal Operation

DU3 Valid 134/C134J1A-29

Gnd/Open Type A

Ground = DU 3 Valid
Open = DU 3 Fail

DU 4 Valid 134/C134J1A-30

Gnd/Open Type A

Ground = DU 4 Valid
Open = DU 4 Fail

Windshear Installed 134/C134J1A-32

Gnd/Open Type A

Ground = Windshear Installed
Open = Windshear not Installed

Windshear Valid 134/C134J1A-33

Gnd/Open Type A

Ground = Windshear Valid
Open = Windshear Invalid

SG1 Rev Select 134/C134J1A-41

Gnd/Open Type A

Ground = SG1 Rev Selected
Open = Normal

Interconnect Information
Table 501 (cont)

SG2 Rev Select 134/C134J1A-42

Gnd/Open Type A

Ground = SG2 Rev Selected
Open = Normal

SG3 Rev Select 134/C134J1A-43

Gnd/Open Type A

Ground = SG3 Rev Selected
Open = Normal

Interconnect Information
Table 501 (cont)

DU1 Rev Select 134/C134J1A-44

Gnd/Open Type A

Ground = DU1 Rev Selected
Open = Normal

DU2 Rev Select 134/C134J1A-45

Gnd/Open Type A

Ground = DU2 Rev Selected
Open = Normal

DU3 Rev Select 134/C134J1A-46

Gnd/Open Type A

Ground = DU3 Rev Selected
Open = Normal

DU4 Rev Select 124/C124J1A-47

Gnd/Open Type A

Ground = DU4 Rev Selected
Open = Normal

DU5 Rev Select 134/C134J1A-48

Gnd/Open Type A

Ground = DU5 Rev Selected
Open = Normal

DU6 Rev Select 134/C134J1A-49

Gnd/Open Type A

Ground = DU6 Rev Selected
Open = Normal

Interconnect Information
Table 501 (cont)

Weight on Wheels (WOW) 134/C134J1A-63

Gnd/Open Type A

Ground = Aircraft on the Ground
Open = Aircraft in Air

FWC ID 134/C134J1A-65, 66

Gnd/Open Type A

	65	66
FWC1	Gnd	Open
FWC2	Open	Gnd

Gear Down 134/C134J1A-67

Gnd/Open Type A

Ground = Gear Down and Locked
Open = Gear Retracted

Memory Erase Button 134/C134J1A-68

Gnd/Open Type A

Ground = Erase Non-Volatile Memory
Open = Normal Operation

Windshear Available 134/C134J1A-69

Gnd/Open Type A

Ground = Windshear Available
Open = Windshear not Available

Ground Spoiler Not Armed 134/C134J1A-70

Gnd/Open Type A

Ground = Gnd Spoiler not Armed
Open = Gnd Spoiler Armed

Interconnect Information
Table 501 (cont)

Emergency Battery 1 Fail 134/C134J1A-71

Gnd/Open Type A

Ground = Normal Operation
Open = Emergency Battery 1 Fail

Emergency Battery 2 Fail 134C134J1A-72

Gnd/Open Type A

Ground = Normal Operation
Open = Emergency Battery 2 Fail

AOA Heater 1 Fail 134/C134J1A-73

Gnd/Open Type A

Ground = Normal Operation
Open = AOA Heater 1 Fail

AOA Heater 2 Fail 134/C134J1A-74

Gnd/Open Type A

Ground = Normal Operation
Open = AOA Heater 2 Fail

CDU 1 Valid 134/C134J1A-75

Gnd/Open Type A

Ground = CDU Valid
Open = CDU Invalid

CDU 2 Valid 134/C134J1A-76

Gnd/Open Type A

Ground = CDU Valid
Open = CDU Invalid

Interconnect Information
Table 501 (cont)

Spare CDU Valid 134/C134J1A-77

Gnd/Open Type A

Ground = CDU Valid
Open = CDU Invalid

Spare FMS Active 2 134/C134J1A-78

Gnd/Open Type A

Ground = Spare FMS Replaces FMS 2
Open = Normal Operation

Spare FMS Active 1 134/C134J1A-79

Gnd/Open Type A

Ground = Spare FMS Replaces FMS 1
Open = Normal Operation

Brake Temp Monitor Systems (BTMS) 134/C134J1A-84

Gnd/Open Type A

Ground = Brake Overheat (BRAKE OVHT)
Open = Normal Operation

Interconnect Information
Table 501 (cont)

Autopilot Off Reset 134/C134J1A-80

Gnd/Open Type A

Ground = Resets the "AUTOPILOT OFF" Ann on EICAS
Open = Normal Operation

Reference Appendix D

Manual Exceedance Record 134/C134J1A-81

Gnd/Open Type A

Ground = Manual Recording
Open = Normal Auto Recording

Autothrottle Disconnect 134/C134J1A-83

Gnd/Open Type A

Ground = Normal Operation
Open = Disengage Autothrottles

Maintenance Test 134/C134J1A-85

Gnd/Open Type A

Ground = Maintenance Test Enabled
Open = Normal Operation

FWC Data Download 134/C134J1A-86

Gnd/Open Type A

Ground = Initiate FWC Data Download
Open = Normal Operation

Spare NZ Valid 134/C134J1A-87

Gnd/Open Type A

Ground = NZ Valid
Open = NZ Invalid

Interconnect Information
Table 501 (cont)

Spare FMS Installed 134/C134J1A-90

Gnd/Open Type A

Ground = Spare FMS Installed
Open = Two FMS Installation

BC Valid 134/C134J1A-97, 98, 99

Gnd/Open Type A

Ground = Bus Controller Valid
Open = Bus Controller Invalid

Scroll Up 134/C134J1A-105

Gnd/Open Type A

Ground = Scroll Caution/Advisory Messages
Open = No Scroll

Scroll Down 134/C134J1A-106

Gnd/Open Type A

Ground = Scroll Caution/Advisory Messages Down
Open = No Scroll

Category II Program Pins

CAT II Bendix ILS Installed	134/C134J1A-28
CAT II MLS Installed	134/C134J1A-50
CAT II NAV Installed	134/C134J1A-82

Ground/Open Type A

GND = CAT II Certified Receiver Type* Installed
Open = Non-CAT II Aircraft

*NOTE: Current certification only has the NAV option available but FWC Logic is provisioned for future certifications. CAT II NAV Installed (J1A-82) must be grounded for the Bendix ILS and MLS options to work.

Interconnect Information
Table 501 (cont)

Left Fuel Shutoff Valve   134/C134J1B-1
Open

28 V dc/Open Type A

28 V dc = Left Fuel Shutoff Valve Open
Open   = Left Fuel Shutoff Valve is not Open

Right Fuel Shutoff Valve 134/C134J1B-2
Open

28 V dc/Open Type A

28 V dc = Right Fuel Shutoff Valve Open
Open   = Right Fuel Shutoff Valve is not Open

Left Fuel Shutoff Valve   134/C134J1B-3
Closed

28 V dc/Open Type A

28 V dc = Left Fuel Shutoff Valve Closed
Open   = Left Fuel Shutoff Valve is not Closed

Right Fuel Shutoff Valve 134/C134J1B-4
Closed

28 V dc/Open Type A

28 V dc = Right Fuel Shutoff Valve Closed
Open   = Right Fuel Shutoff Valve is not Closed

Combined Hydraulic   134/C134J1B-5
Shutoff Valve Open

28 V dc/Open Type A

28 V dc = Combined Hydraulic Shutoff Valve Open
Open   = Combined Hydraulic Shutoff Valve is not Open

Interconnect Information
Table 501 (cont)

Flight Hydraulic Shutoff Valve Open — 134/C134J1B-6

28 V dc/Open Type A

28 V dc = Flight Hydraulic Shutoff Valve Open
Open = Flight Hydraulic Shutoff Valve is not Open

Combined Hydraulic Shutoff Valve Closed — 134/C134J1B-7

28 V dc/Open Type A

28 V dc = Combined Hydraulic Shutoff Valve Closed
Open = Combined Hydraulic Shutoff Valve is not Closed

Flight Hydraulic Shutoff Valve Closed — 134/C134J1B-8

28 V dc/Open Type A

28 V dc = Flight Hydraulic Shutoff Valve Closed
Open = Flight Hydraulic Shutoff Valve is not Closed

DC Ext Power — 134/C134J1B-9

28 V dc/Open Type A

28 V dc = DC External Connection
Open = No External Connection

ACFT Configuration — 134/C134J1B-10

28 V dc/Open Type A

28 V dc = Aircraft not properly configured for T/O or landing
Open = Normal Operation

Interconnect Information
Table 501 (cont)

Left Oil Filter Bypass 134/C134J1B-12

28 V dc/Open Type A

28 V dc = Normal Operation
Open = Left Oil Filter Bypass

Right Oil Filter Bypass 134/C134J1B-13

28 V dc/Open Type A

28 V dc = Normal Operation
Open = Right Oil Filter Bypass

Flight Recorder Fail 134/C134J1B-14

28 V dc/Open Type A

28 V dc = Normal Operation
Open = Flight Recorder Inoperative

Interconnect Information
Table 501 (cont)

Inhibit Select 134/C134J1B-16

28 V dc/Open Type A

28 V dc = Activate Inhibit Function (Edge Triggered)
Open = Normal Operation

For inhibit to be activated must have following condition:

(Valid Rad ALT) . ((< 400 Ft. RA) or (Gear Down))

Left Cowl Press Low 134/C134J1B-17

28 V dc/Open Type A

28 V dc = Left Cowl Pressure Low
Open = Normal Operation

Right Cowl Press Low 134/C134J1B-18

28 V dc/Open Type A

28 V dc = Right Cowl Pressure Low
Open = Normal Operation

VHF Com 1 Fail 134/C134J1B-19

28 V dc/Open Type A

28 V dc = Normal Operation
Open = VHF Communication Radio Failure

VHF Com 2 Fail 134/C134J1B-20

28 V dc/Open Type A

28 V dc = Normal Operation
Open = VHF Communication Radio Failure

Interconnect Information
Table 501 (cont)

VHF Com 3 Fail 134/C134J1B-21

28 V dc/Open Type A

28 V dc = Normal Operation
Open = VHF Communication Radio Failure

Wing Temp Low Left 134/C134J1B-22
Right 134/C134J1B-23

28 V dc/Open Type A

28 V dc = Normal Operation
Open = Wing Temp Low (Wing A/I message must also be active for ≥ 2 min)

Autopilot Clutch 134/C134J1B-24

28 V dc/Open Type A

28 V dc = Clutch Engaged
Open = Clutch Disengaged

Trim Clutch 134/C134J1B-25

28 V dc/Open Type A

28 V dc = Clutch Engaged
Open = Clutch Disengaged

Yaw Damper Clutch 134/C134J1B-26

28 V dc/Open Type A

28 V dc = Clutch Engaged
Open = Clutch Disengaged

APU Alternator Off 134/C134J1B-28

28 V dc/Open Type A

28 V dc = APU Alternator Off
Open = Normal Operation

Interconnect Information
Table 501 (cont)

Autothrottle Clutch No. 1 134/C134J1B-30

28 V dc/ Open Type A

28 V dc = A/T Clutch Engaged
Open = A/T Clutch Disengaged

Autothrottle Clutch No. 2 134/C134J1B-32

28 V dc/Open Type A

28 V dc = A/T Clutch Engaged
Open = A/T Clutch Disengaged

Interconnect Information
Table 501 (cont)

Discrete Outputs

FGC Maint Test 134/C134J1A-19

Gnd/Open Type A

Ground = FGC Selected for Maintenance Test
Open = Normal Operation

Autopilot Off Annun 134/C134J1A-21

Gnd/Open Type A

Ground = Autopilot Off
Open = Autopilot On or Reset

Reference Appendix D

Windshear Test 134/C134J1A-93

Gnd/Open Type A

Ground = Initiates Windshear Self-Test
Open = Normal Operation

Heading Miscompare 134/C134J1A-94

Gnd/Open Type A

Ground = Heading Miscompare (>6°)
Open = Normal Operation

Radio Altimeter Test 134/C134J1A-95

Gnd/Open Type A

Ground = Initiates Self Test of Radio Altimeter
Open = Normal Operation

Bus Controller Power Up Test 134/C134J1A-96

Gnd/Open Type A

Ground = Initiates Bus Controller Self Test Upon Power Up
Open = Normal Operation

Interconnect Information
Table 501 (cont)

Emergency Checklist Selected — 134/C134J1A-103

Gnd/Open Type A

Ground = Emergency Checklist Selected
Open = Normal Operation

Checklist Installed — 134/C134J1A-104

Gnd/Open Type A

Ground = Checklist is Installed in the FWC
Open = Checklist is not Installed in the FWC

Red Aural Output — 134/C134J1B-87

28 V dc/Open Type A

28 V dc = New Red Message
Open = Normal Operation

Amber Aural Output — 134/C134J1B-88

28 V dc/Open Type A

28 V dc = New Amber Message
Open = Normal Operation

Blue Aural Output — 134/C134J1B-89

28 V dc/Open Type A

28 V dc = New Blue Message
Open = Normal Operation

Inhibit Output — 134/C134J1B-90

28 V dc/Open Type A

28 V dc = Inhibit Function Active
Open = Inhibit Function Disabled

Interconnect Information
Table 501 (cont)

Autopilot Disconnect Test   134/C134J1B-91

28 V dc/Open Type A

28 V dc = Autopilot Disconnect Test Active
Open = Normal Operation

Gear Horn Inhibit   134/C134J1B-92

28 V dc/Open Type A

28 V dc = RAD ALT > 1300 ft.
Open = RAD ALT < 1200 ft.

EICAS Fail   134/C134J1B-93

28 V dc/Open Type A

28 V dc = Normal Operation
Open = Failure of any Active EICAS Unit

Download In Progress   134/C134J1B-94

28 V dc/Open Type A

28 V dc = EEPROM Data Being Transferred Out Of FWC
Open = Normal Operation

Erase In Progress   134/C134J1B-95

28 V dc/Open Type A

28 V dc = EEPROM Being Erased
Open = Normal Operation

Interconnect Information
Table 501 (cont)

Autothrottle Off Horn 134/C134J1B-96

28 V dc/Open Type A

28 V dc = Autothrottle Disengagement
Open = Normal Operation

AP Off Horn 134/C134J1B-97

28 V dc/Open Type A

28 V dc = AP Disengagement (2.5 sec)
Open = Normal Operation

Master Warn Annun 134/C134J1B-98

28 V dc/Open Type A

28 V dc = Annunciation Output
Open = Normal Operation

Reference Appendix D

Master Caution Annun 134/C134J1B-99

28 V dc/Open Type A

28 V dc = Annunciation Output
Open = Normal Operation

Reference Appendix D

VALT Alert Horn 134/C134J1B-99

28 V dc/Open Type A

28 V dc = VNAV ALT Alerter Horn On
Open = VNAV ALT Alerter Horn Off

Interconnect Information
Table 501 (cont)

136. Data Acquisition Unit (DAU) Discrete Summary

Discrete Inputs

DAU IDENT A00/A01/B00/B01 — 136J1A-10/76 (A00/A01)
136J1B-67/79 (B00/B01)
137J1A-10/76 (A00/A01)
137J1B-67/79 (B00/B01)

Gnd/Open Type A

	ID A00	ID A01	ID B00	ID B01
DAU No. 1	Open	Gnd	Open	Gnd
DAU No. 2	Gnd	Open	Gnd	Open

Rev Unlock — 136J1B-9 (left)
137J1B-9 (right)

28 V dc/Open Type A

28 V dc = Thrust Reverser Fully or Partially Deployed
Open = Normal Operation

Fuel Pressure Low — 136J1B-10 (left)
137J1B-10 (right)

28 V dc/Open Type A

28 V dc = Fuel Press. at Inlet to High Press. Pump <15 PSI or Both Boost Pumps on one side have been turned off with the Crossflow Valve Closed
Open = Normal Operation

Fuel Low Level — 136J1B-11 (left)
137J1B-11 (right)

28 V dc/Open Type A

28 V dc = Fuel Level is Below 700 lbs.
Open = Level Above 700 lbs.

Interconnect Information
Table 501 (cont)

Pylon Hot	136J1B-12 (left) 137J1B-12 (right)

28 V dc/Open Type A

28 V dc = Engine Pylon Temperature > 325F (163C)
Open = Normal Operation

Eng Hot	136J1B-13 (left) 137J1B-13 (right)

28 V dc/Open Type A

28 V dc = Engine Cooling Air Temp > 860F (460C)
Open = Normal Operation

Oil Press Low	136J1B-14 (left) 137J1B-14 (right)

28 V dc/Open Type A

28 V dc = Engine Oil Pressure < 15 psi
Open = Normal Operation

Call	136J1B-15 137J1B-15

28 V dc/Open Type A

28 V dc = Call
Open = Normal Operation

Ignition 1	136J1B-16 (left) 137J1B-16 (right)

28 V dc/Open Type A

28 V dc = Engine Ignition On
Open = Ignition Off

Interconnect Information
Table 501 (cont)

Wing Anti-Ice On	136J1B-17 (left) 137J1B-17 (right)

28 V dc/Open Type A

28 V dc = Wing Anti-Ice On
Open = Anti-Ice Off

Engine Cowl Anti-Ice On	136J1B-18 (left) 137J1B-18 (right)

28 V dc/Open Type A

28 V dc = Engine Anti-Ice On
Open = Anti-Ice Off

RA 1,2 Fail	136J1B-19 (RA 1) 137J1B-19 (RA 2)

28 V dc/Open Type A

28 V dc = Normal Operation
Open = Radio Altimeter Failure

Cabin Press Low	136J1B-20

28 V dc/Open Type A

28 V dc = Cabin Alt > 9,750 $\pm$ 250 ft.
Open = Normal Operation

Ignition 2	136J1B-21 137J1B-21

28 V dc/Open Type A

28 V dc = Ignition On
Open = Ignition Off

Interconnect Information
Table 501 (cont)

COMB HYD Hot 136J1B-22

28 V dc/Open Type A

28 V dc = Combined Hydraulic System Fluid Temperature > 220F (104C)
Open = Normal Operation

COMB HYD Fail 136J1B-23

28 V dc/Open Type A

28 V dc = Combined Hydraulic System Failed
Open = Normal Operation

Fuel Filter Fail 136J1B-24 (left)
137J1B-24 (right)

28 V dc/Open Type A

28 V dc = Fuel Filter Clogged
Open = Normal Operation

AIL HYD Off 136J1B-25 (left)
137J1B-25 (right)

28 V dc/Open Type A

28 V dc = Aileron Hydraulic Shutoff
Open = Normal Operation

Bleed Hot 136J1B-26 (left)
137J1B-26 (right)

28 V dc/Open Type A

28 V dc = Bleed Air Temp > 550F (288C)
Open = Normal Operation

Interconnect Information
Table 501 (cont)

Bleed Press High	136J1B-27 (left) 137J1B-27 (right)

28 V dc/Open Type A

28 V dc = Bleed Air Pressure > 90 PSI
Open = Normal Operation

SVO	136J1B-28 (left) 137J1B-28 (right)

28 V dc/Open Type A

28 V dc = Engine Start Valve is Open
Open = Valve Closed

Altntr Hot	136J1B-29 (left) 137J1B-29 (right)

28 V dc/Open Type A

28 V dc = Alternator Temp > 250F (121C)
Open = Normal Operation

Conv Hot	136J1B-30 (left) 137J1B-30 (right)

28 V dc/Open Type A

28 V dc = Converter Temperature > 221F (105C)
Open = Normal Operation

Smoke Detect	136J1B-31

28 V dc/Open Type A

28 V dc = Smoke Detected
Open = Normal Operation

Interconnect Information
Table 501 (cont)

Conv Fan Fail	136J1B-32 (left) 137J1B-32 (right)	
	28 V dc/Open Type A	
	28 V dc = Converter Fan Failure Open = Normal Operation	
ELEV COMB HYD Off	136J1B-33	
	28 V dc/Open Type A	
	28 V dc = Elevator Combined Hydraulic Off Open = Normal Operation	
APU Altntr Hot	136J1B-34	
	28 V dc/Open Type A	
	28 V dc = APU Alternator Temp > 300F (149C) Open = Normal Operation	
Cool Turb Hot	136J1B-35 (left) 136J1B-35 (right)	
	28 V dc/Open Type A	
	28 V dc = Engine Cooling Turbine Discharge Air Temperature > 400F (204C) Open = Normal Operation	
AC PWR Fail	136J1B-36 (left) 137J1B-36 (right)	
	28 V dc/Open Type A	
	28 V dc = AC Power Failure Open = Normal Operation	

Interconnect Information
Table 501 (cont)

DC PWR Fail 136J1B-37 (left)
137J1B-37 (right)

28 V dc/Open Type A

28 V dc = DC Power Failure
Open = Normal Operation

Stall Barrier Fail 136J1B-38 (left)
137J1B-38 (right)

28 V dc/Open Type A

28 V dc = Normal Operation
Open = Stall Barrier Failure

Emer Batt Dischg 136J1B-39 (left)
137J1B-39 (right)

28 V dc/Open Type A

28 V dc = Emer Batt Being Discharged
Open = Normal Operation

Wing Hot 136J1B-40 (left)
137J1B-40 (right)

28 V dc/Open Type A

28 V dc = Wing Anti-Ice Exhaust Duct Temperature > 180F (83C)
Open = Normal Operation

Main Fuel Fail 136J1B-41 (left)
137J1B-41 (right)

28 V dc/Open Type A

28 V dc = Main Boost Pump has Failed
Open = Normal Operation

Interconnect Information
Table 501 (cont)

Alt Fuel Fail	136J1B-42 (left) 137J1B-42 (right)

28 V dc/Open Type A

28 V dc = Alternate Boost Pump has Failed
Open = Normal Operation

Stall Barr 1,2	136J1B-44 (Stall Barr 1) 137J1B-44 (Stall Barr 2)

28 V dc/Open Type A

28 V dc = Stall Barrier System Giving Stall Angle Indication
Open = Normal Operation

Cabin Oxy On	136J1B-45

28 V dc/Open Type A

28 V dc = Cabin Altitude Exceeded 13,500 ft., Passenger Masks should Deploy
Open = Normal Operation

AUX AC Power Fail	136J1B-46

28 V dc/Open Type A

28 V dc = Auxiliary Power Failure
Open = Normal Operation

APU Fire	136J1B-47

28 V dc/Open Type A

28 V dc = APU Fire
Open = Normal Operation

Interconnect Information
Table 501 (cont)

Aft Equip Hot 136J1B-48

28 V dc/Open Type A

28 V dc = Aft Equipment Area Temperature is above 200F (93C)
Open = Normal Operation

Landing Gear Status 136J1B-49

28 V dc/Open Type A

28 V dc = Gear Up, Either Throttle Below XX% N2 or Gear Up and Flaps Greater Than 20% (L Main, R Main, Nose Wheel)
Open = Normal Operation

AUX HYD Hot 136J1B-50

28 V dc/Open Type A

28 V dc = Auxiliary Hydraulic Pump Case Temperature > 300F (149C)
Open = Normal Operation

Isolation Valve 136J1B-51

28 V dc/Open Type A

28 V dc = Bleed Isolation Valve Open
Open = Normal Operation

EX Batt Sw On 136J1B-52

28 V dc/Open Type A

28 V dc = External Battery Switch On
Open = Switch Off

Interconnect Information
Table 501 (cont)

Rudder COMB HYD Off   136J1B-53

28 V dc/Open Type A

28 V dc = Rudder Combined Hydraulic Off
Open   = Normal Operation

Single Rudder Limit   136J1B-54

28 V dc/Open Type A

28 V dc = Input Pressure Load Limiter Failure
Open   = Normal Operation

Stab-Flap Fail   136J1B-55

28 V dc/Open Type A

28 V dc = Flaps Up, Stabilizer Not Up
Open   = Normal Operation

EPMP BATT SW OFF   136J1B-56

28 V dc/Open Type A

28 V dc = EPMP Battery Switch is Off
Open   = Normal Operation

Stall Barr Off   136J1B-57

28 V dc/Open Type A

28 V dc = Both Stall Barrier Systems Off
Open   = Normal Operation

TRU Fail   136J1B-58

28 V dc/Open Type A

28 V dc = Transformer Rectifier Unit has no Output

Interconnect Information
Table 501 (cont)

EPMP PS Fail 136J1B-59

28 V dc/Open Type A

28 V dc = Electrical Power Monitor Panel Power Supply Failure
Open = Normal Operation

UTY HYD Off 136J1B-60

28 V dc/Open Type A

28 V dc = Utility Hydraulic Pump Switch Off
Open = Normal Operation

LP/HP Select 136J1B-61

28 V dc/Open Type A

28 V dc = HP Selected
Open = LP Selected

Cowl A/I OVHT 136J1B-64 (left)
137J1B-64 (right)

28 V dc/Open Type A

28 V dc = Engine Cowl Anti-Ice Exhaust Duct Temperature > TBD
Open = Normal Operation

Eng Fire 136J1B-66 (left)
137J1B-66 (right)

Gnd/Open Type A

Ground = Engine Fire Zone Temperature > 440F (227C)
Open = Normal Operation

Fuel Xflow Open 136J1B-68

Gnd/Open Type A

Ground = Fuel Crossflow Valve Open
Open = Valve Closed

Interconnect Information
Table 501 (cont)

Eng Fire Loop Alert 136J1B-69

Gnd/Open Type A

Ground = Engine Fire Detected
Open = Normal Operation

Cabin DFRN 136J1B-70
(Red Annun)

Gnd/Open Type A

Ground = Cabin DFRN > 9.8
Open = Normal Operation

Pitot Heat Fail 136J1B-71 (left)
137J1B-71 (right)

Gnd/Open Type A

Ground = Pitot Tube Heater Elements not Energized
Open = Normal Operation

Altntr Brg Fail 136J1B-72 (left)
137J1B-72 (right)

Gnd/Open Type A

Ground = Alternator Bearing Failure
Open = Normal Operation

Brake Maint Req'd 136J1B-73

Gnd/Open Type A

Ground = Normal Operation
Open = One Brake Channel Failure

Interconnect Information
Table 501 (cont)

Brake Fail 136J1B-74

Gnd/Open Type A

Ground = Normal Operation
Open = Both Brake Channels Failed

APU Master Warn 136J1B-75

Gnd/Open Type A

Ground = APU EGT/APU RPM/Oil Temp High/Oil Pressure Low/ Control Current High/Alternator Bearing Failure
Open = Normal Operation

Stby Pitot Heat Fail 136J1B-76

Gnd/Open Type A

Ground = Standby Pitot Tube Heater Elements not Energized
Open = Normal Operation

Maintenance Test Enable 136J1B-77
137J1B-77

Gnd/Open Type A

Ground = Maintenance Test Enabled
Open = Normal Operation

DU Fan 1, 2 Fail 136J1B-78 (Fan 1)
137J1B-78 (Fan 2)

Gnd/Open Type A

Ground = Normal Operation
Open = Du Fan Fail

Interconnect Information
Table 501 (cont)

Batt 1,2 Chgr Fail	136J1B-80 (Batt 1) 137J1B-80 (Batt 2)

Gnd/Open Type A

Ground = Normal Operation
Open = Battery 1,2 Charger Failure

Weight On Wheels (WOW)	136J1B-81 (left) 137J1B-81 (right)

Gnd/Open Type A

Ground = Aircraft on the Ground
Open = Normal Operation

Main Cabin Doors	137J1B-20

28 V dc/Open Type A

28 V dc = Main Doors not Locked
Open = Normal Operation

FLT HYD Hot	137J1B-22

28 V dc/Open Type A

28 V dc = Flight Hydraulic System Fluid Temperature > 220F (104C)
Open = Normal Operation

FLT HYD SYS Fail	137J1B-23

28 V dc/Open Type A

28 V dc = Flight Hydraulic System Failed
Open = Normal Operation

Interconnect Information
Table 501 (cont)

Flame Detect 137J1B-31

28 V dc/Open Type A

28 V dc = Flame Detected
Open = Normal Operation

ELEV FLT HYD Off 137J1B-33

28 V dc/Open Type A

28 V dc = Elevator Flight Hydraulic Off
Open = Normal Operation

Cabin Press Man 137J1B-45

28 V dc/Open Type A

28 V dc = Cabin Pressure Controller Switched Off
Open = Normal Operation

AC Ext Pwr 137J1B-46

28 V dc/Open Type A

28 V dc = AC External Connection
Open = No Connection

Fwd Rad Rack Hot 137J1B-48

28vdc/Open Type A

28 V dc = Fwd Radio Rack Area Temperature is above 200F (93C)
Open = Normal Operation

Interconnect Information
Table 501 (cont)

Spd Brake Extded 137J1B-49

28 V dc/Open Type A

28 V dc = Speed Brake Handle not in Fully Retracted Position
Open = Normal Operation

TRU Hot 137J1B-50

28 V dc/Open Type A

28 V dc = Transformer Rectifier Unit Temperature > 200F (93C)
Open = Normal Operation

Engine Sync 137J1B-51

28 V dc/Open Type A

28 V dc = Engine Sync is On
Open = Sync Off

Ice Det 137J1B-52

28 V dc/Open Type A

28 V dc = Icing is Occurring
Open = Normal Operation

Rudder FLT HYD Off 137J1B-53

28 V dc/Open Type A

28 V dc = Rudder Flight Hydraulic Off
Open = Normal Operation

Rudder Limit 137J1B-54

28 V dc/Open Type A

28 V dc = Rudder Actuator Torque Limiter is in Operation
Open = Normal Operation

Interconnect Information
Table 501 (cont)

Gnd Spoiler Fail 137J1B-55

28 V dc/Open Type A

28 V dc = Gnd Spoiler Component Fail or Deployed Gnd Spoiler Panel
Open = Normal Operation

Tone Gen Fail 137J1B-57

28 V dc/Open Type A

28 V dc = Normal Operation
Open = Aural Tone Generator has Failed

Baggage Doors 137J1B-58

28 V dc/Open Type A

28 V dc = Baggage Door not Locked
Open = Door Locked

Service Doors 137J1B-59

28 V dc/Open Type A

28 V dc = Aft Equipment Door Open
Open = Door Closed

Gnd Prox Valid 137J1B-61

28 V dc/Open Type A

28 V dc = Gnd Prox Invalid
Open = Gnd Prox Valid

Interconnect Information
Table 501 (cont)

Fuel Intk Open		137J1B-68
	Gnd/Open Type A	
	Ground = Fuel Intertank Valve Open	
	Open = Valve Closed	
Eng Fault Loop Alert		137J1B-69
	Gnd/Open Type A	
	Ground = Engine Fault Detected	
	Open = Normal Operation	
Cabin DFRN (Amber Annun)		137J1B-70
	Gnd/Open Type A	
	Ground = Cabin DFRN > 9.6	
	Open = Normal Operation	
Brake Pedal		137J1B-73
	Gnd/Open Type A	
	Ground = Brake Pedal On	
	Open = Brake Pedal Off	
Anti-Skid Fail		137J1B-74
	Gnd/Open Type A	
	Ground = Normal Operation	
	Open = Failure in Anti-Skid System	

Interconnect Information
Table 501 (cont)

APU ALT BRG Fail 137J1B-75

Gnd/Open Type A

Ground = Normal Operation
Open = APU Alternator Bearing Failure

TAT Probe Heater Fail 137J1B-76

Gnd/Open Type A

Ground = TAT Probe Heater Failure
Open = Normal Operation

Discrete Outputs

The DAU contains no aircraft variable discrete outputs.

Interconnect Information
Table 501 (cont)

149. Global Positioning System Sensor Unit (GPSSU) Discrete Summary

Discrete Inputs

429 Output HS/LS Select   149J1-21

Gnd/Open Type A

Gnd* = Low Speed
Open = High Speed

DADC Input 419/429 Select 149J1-40

Gnd/Open Type A

Gnd* = 419 Data
Open = 429 Data

*When grounding pins 21 and/or 40, use only pin 149J1-8. Do not use any other ground and do not tie pin 8 to 28V DC GND.

Discrete Outputs

GPSSU Fault   149J1-1

Gnd/Open, Gnd Isink ≤ 280 mA DC

Gnd = Fault
Open = Normal Operation

Interconnect Information
Table 501 (cont)

171. Inertial System Display Unit (ISDU) Discrete Summary

Discrete Inputs

CLR/ENT Dimming 171J1-7

Gnd/Open Type A

Gnd = Dim
Open = Bright

Data Display Test 171J1-11

Gnd/Open Type A

Gnd = Illuminated
Open = Off

Discrete Outputs - None

Interconnect Information
Table 501 (cont)

198. Navigation Display Unit (NDU) Discrete Summary

Discrete Inputs

BRT/DIM 198J1-7

Gnd/Open Type A

Gnd = Keyboard Cue Lights are Dim
Open = Keyboard Cue Lights are Bright

Test 198J1-11

Gnd/Open Type A

Gnd = Test Mode
Open = Normal Mode

Discrete Outputs - None

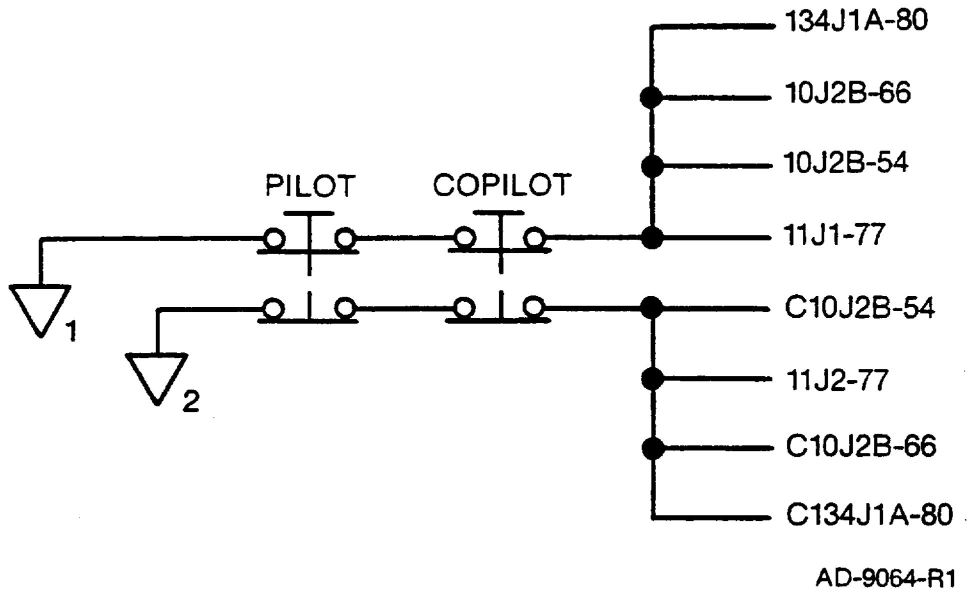
Interconnect Information
Table 501 (cont)

APPENDIX D
SCHEMATICS

APPENDIX D
SCHEMATICS

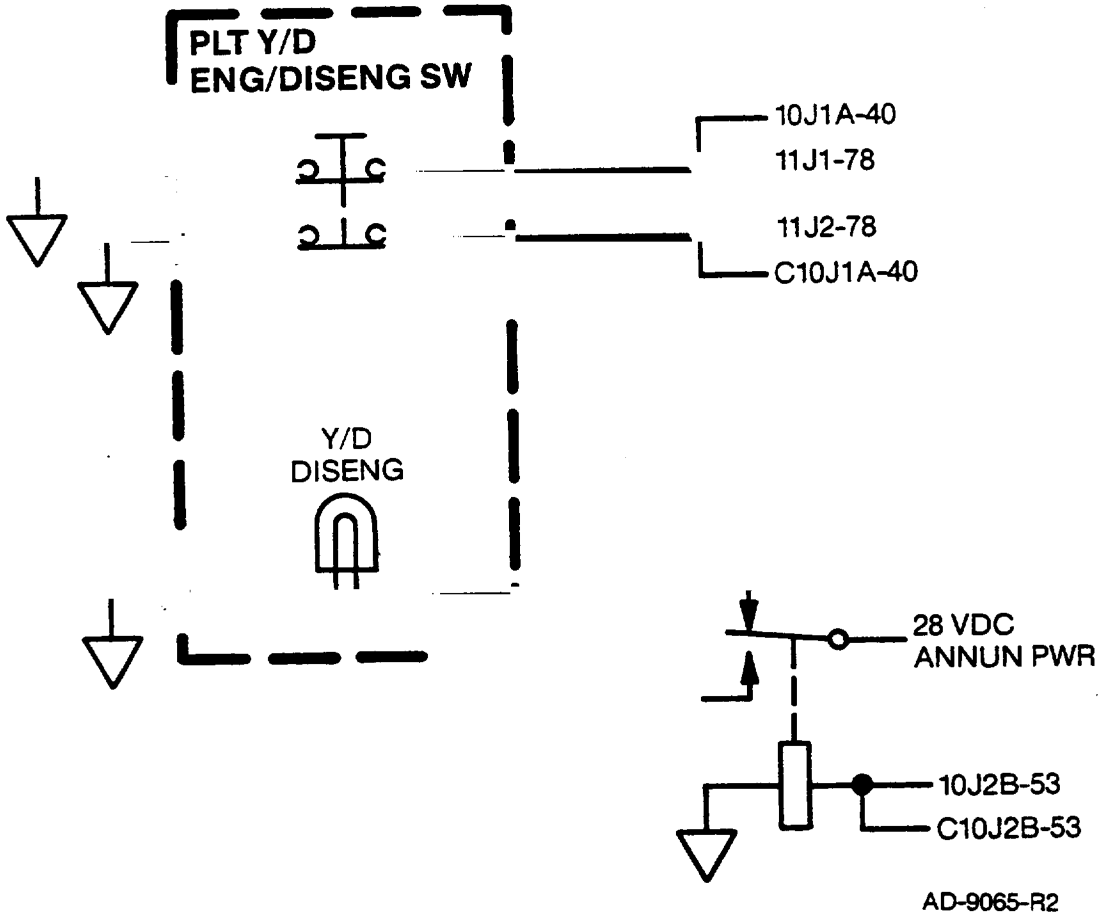
1.0 AFGCS SCHEMATICS

The following figures depict AFGCS interconnect configurations that should be utilized in the aircraft installation.



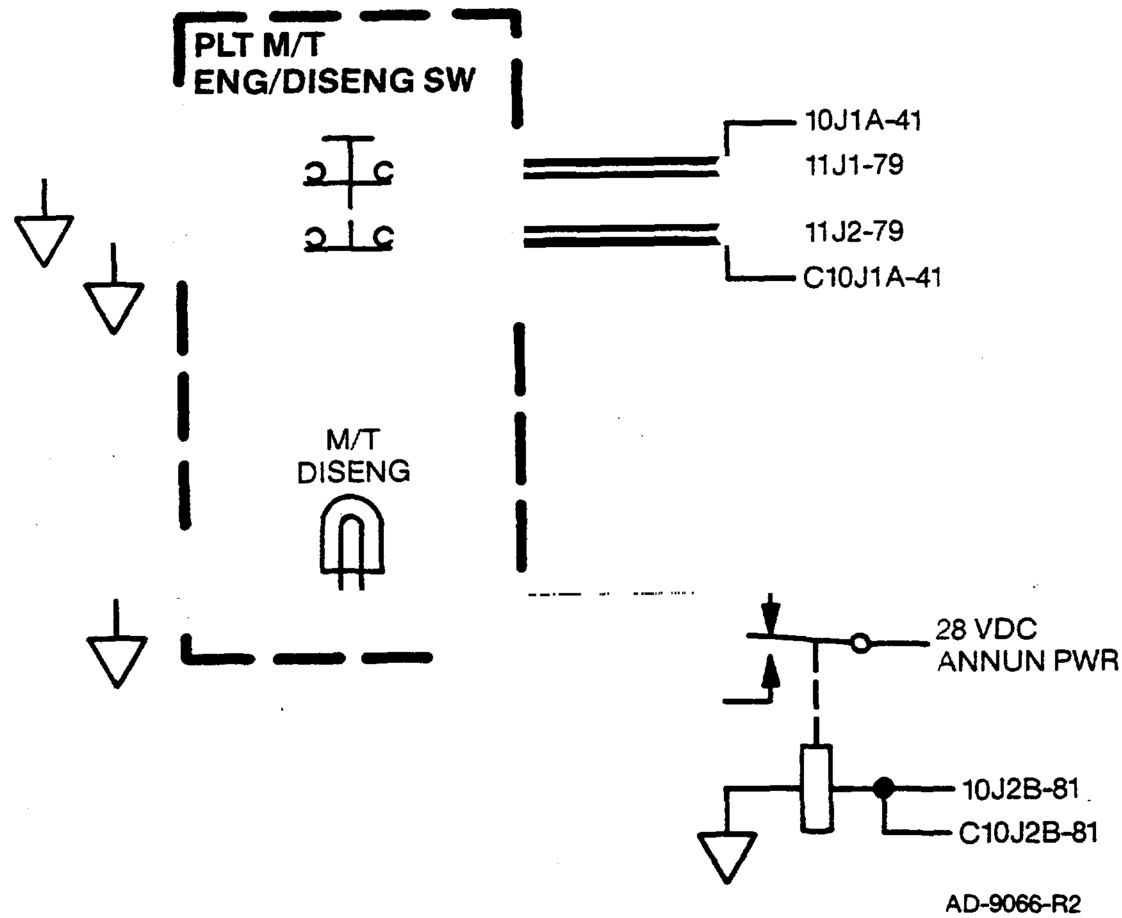
Autopilot Quick Disconnect Schematic
Figure D-1.1

Interconnect Information
Table 501 (cont)



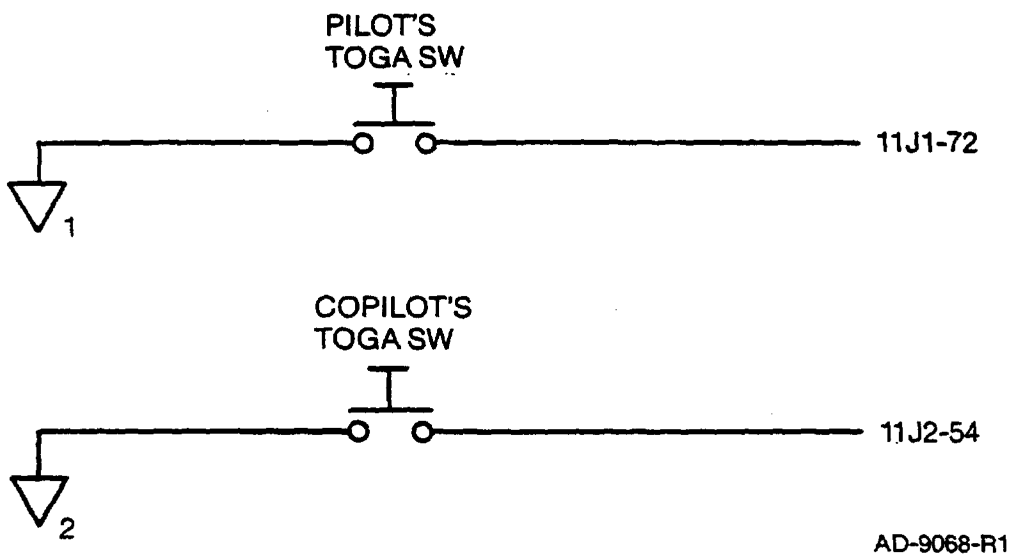
Yaw Damper Engage/Disengage Switch
And Annunciator Schematic
Figure D-1.2

Interconnect Information
Table 501 (cont)



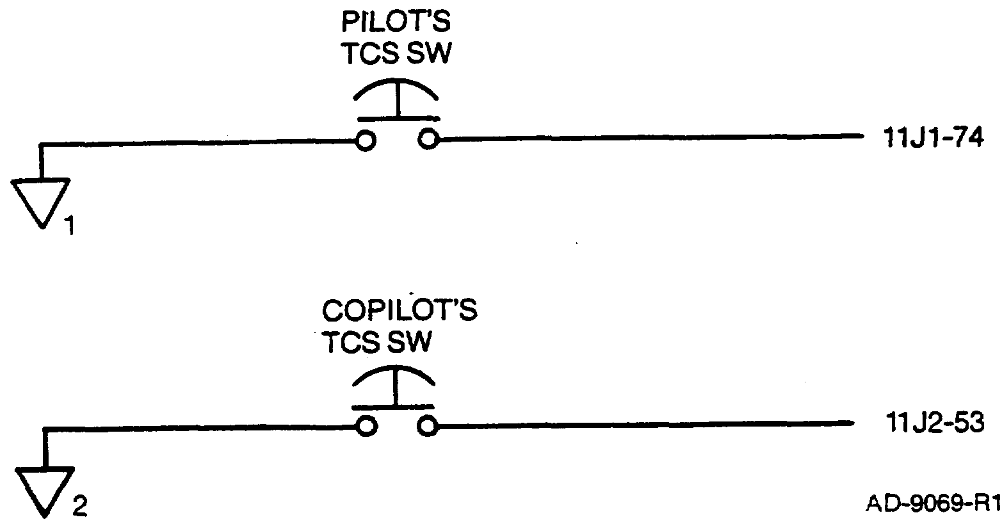
Mach Trim Engage/Disengage Switch
And Annunciator Schematic
Figure D-1.3

Interconnect Information
Table 501 (cont)



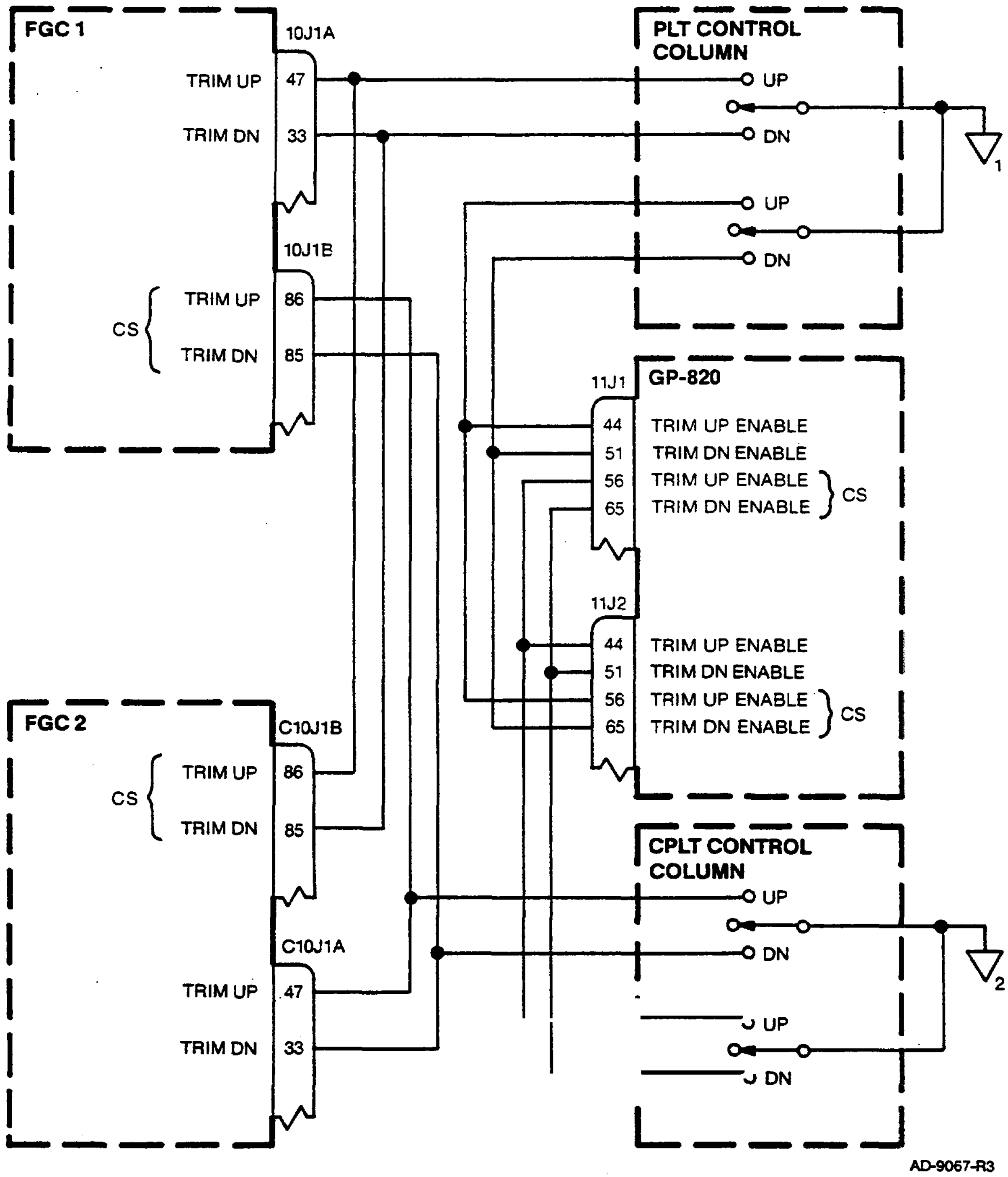
Take Off/Go Around Engage Switch Schematic
Figure D-1.4

Interconnect Information
Table 501 (cont)



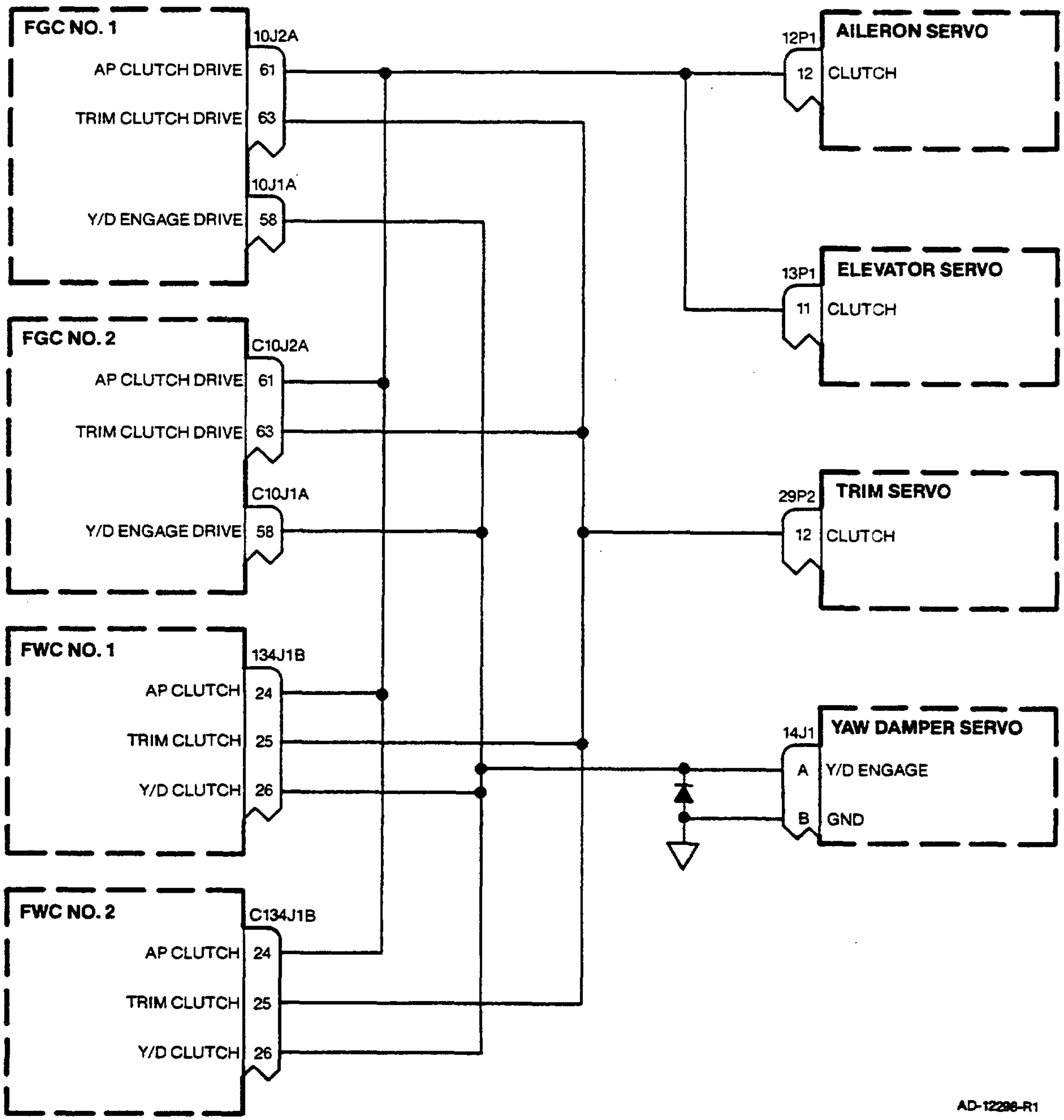
Touch Control Steering Engage Switch Schematic
Figure D-1.5

Interconnect Information
Table 501 (cont)



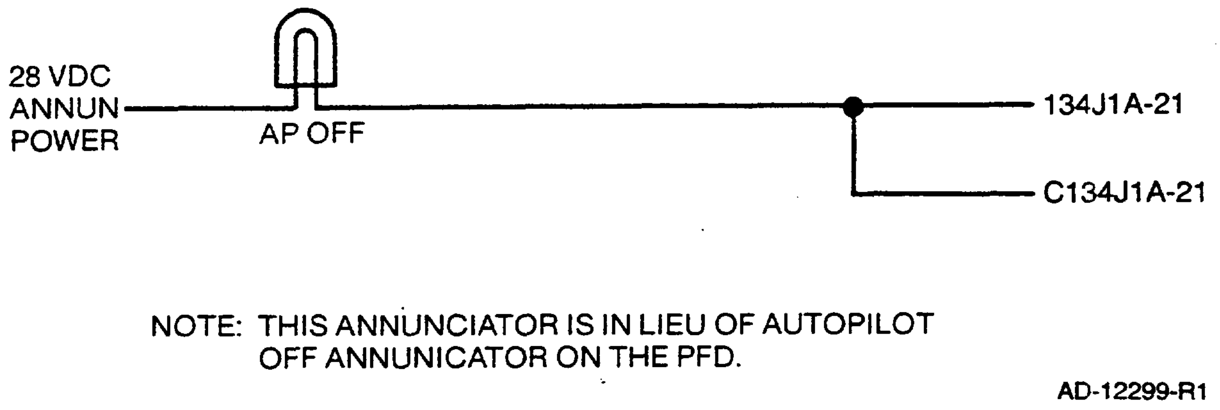
Elevator Trim Switch Schematic
Figure D-1.6

Interconnect Information
Table 501 (cont)



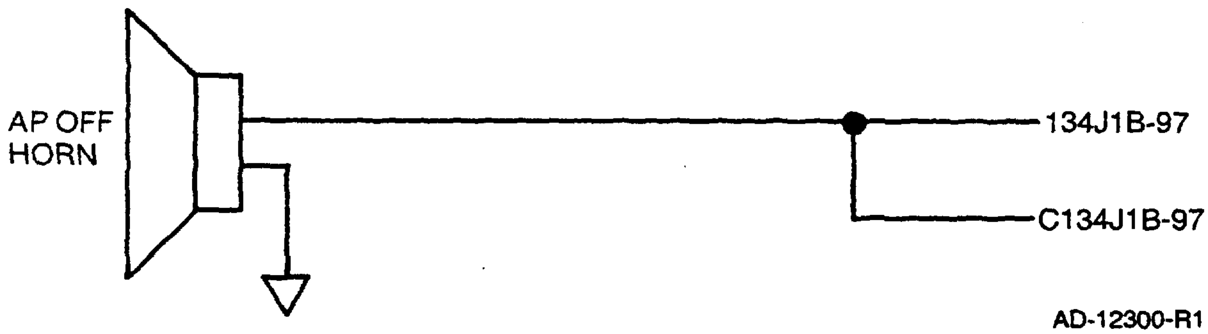
AFGCS Clutch Schematic
Figure D-1.7

Interconnect Information
Table 501 (cont)



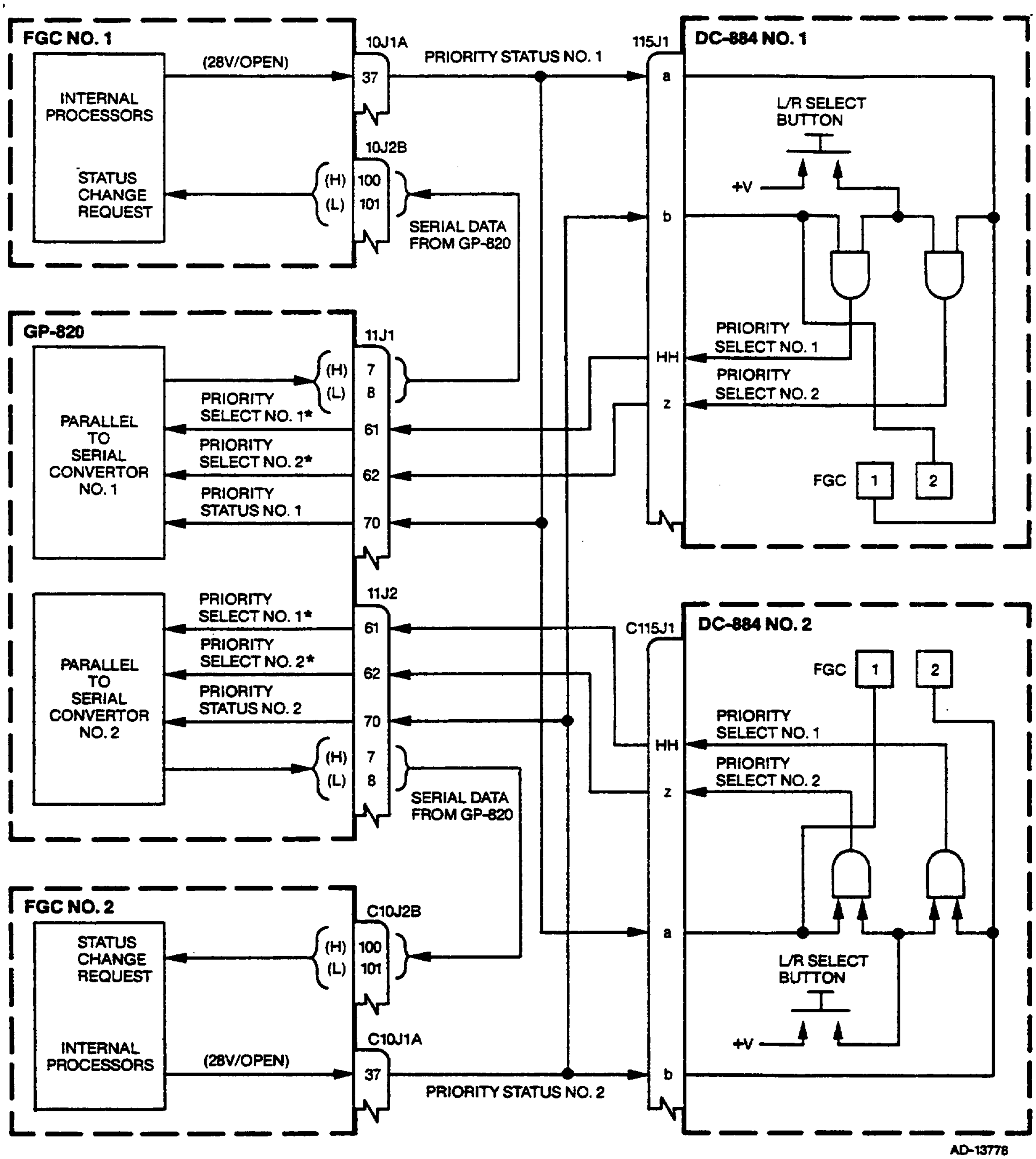
Autopilot Off Annunciator
Figure D-1.8

Interconnect Information
Table 501 (cont)



Autopilot Off Horn
Figure D-1.9

Interconnect Information
Table 501 (cont)

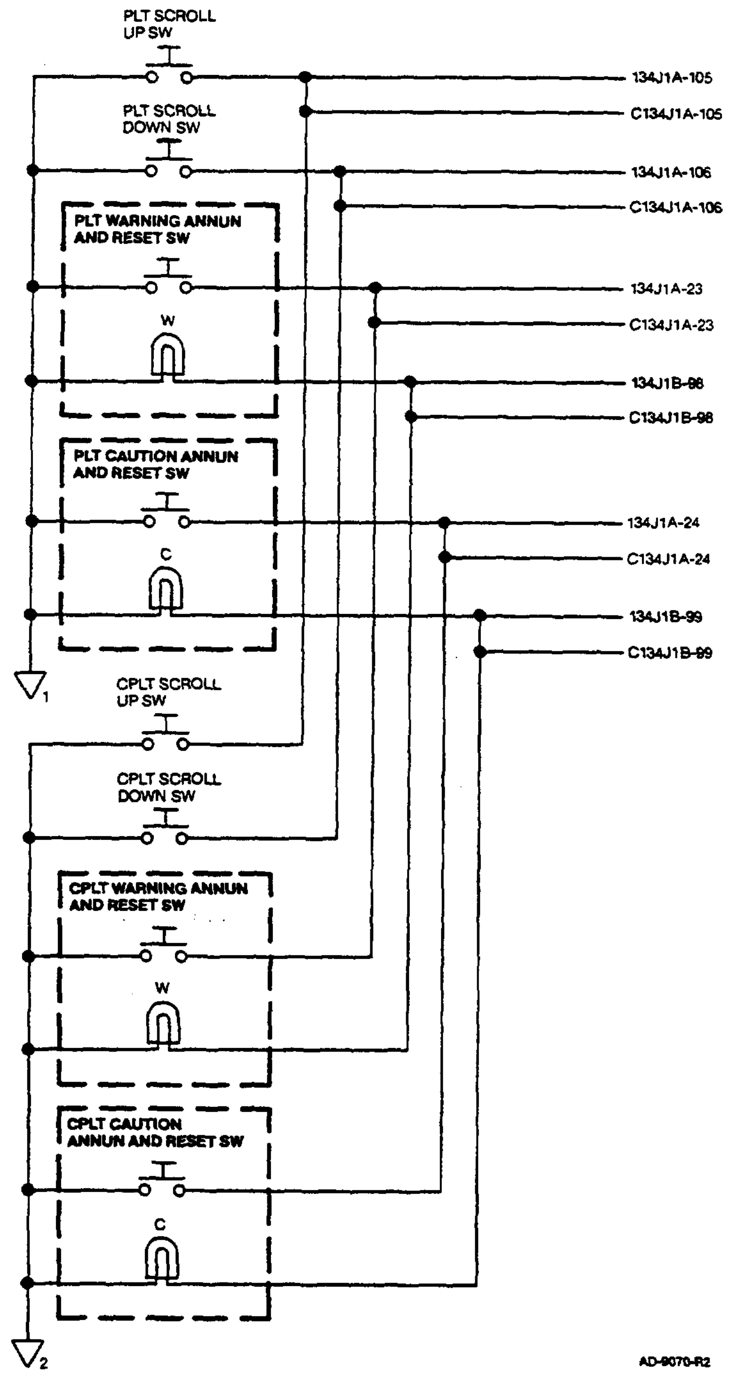


FGC Priority Status/Select Schematic
Figure D-1.10

Interconnect Information
Table 501 (cont)

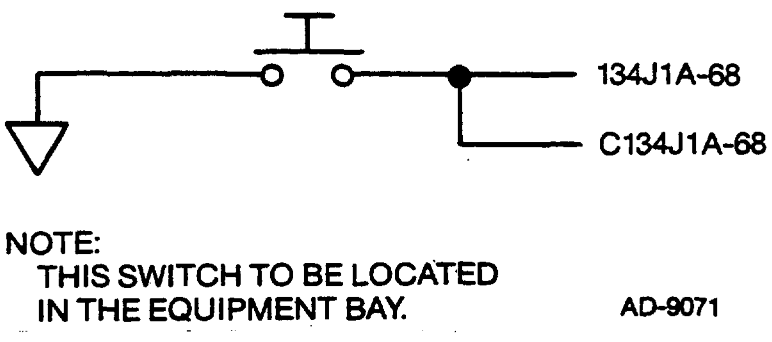
2.0 EDS SCHEMATICS

The following figures depict EDS interconnect configurations that should be utilized in the aircraft installation.



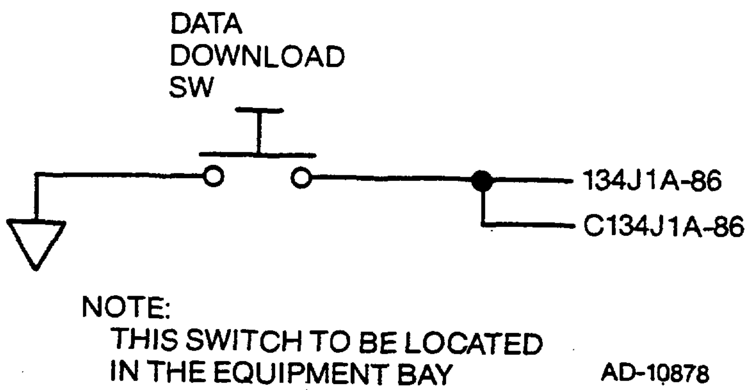
Caution/Warning Reset and Scroll Switch Schematic
Figure D-2.1

Interconnect Information
Table 501 (cont)



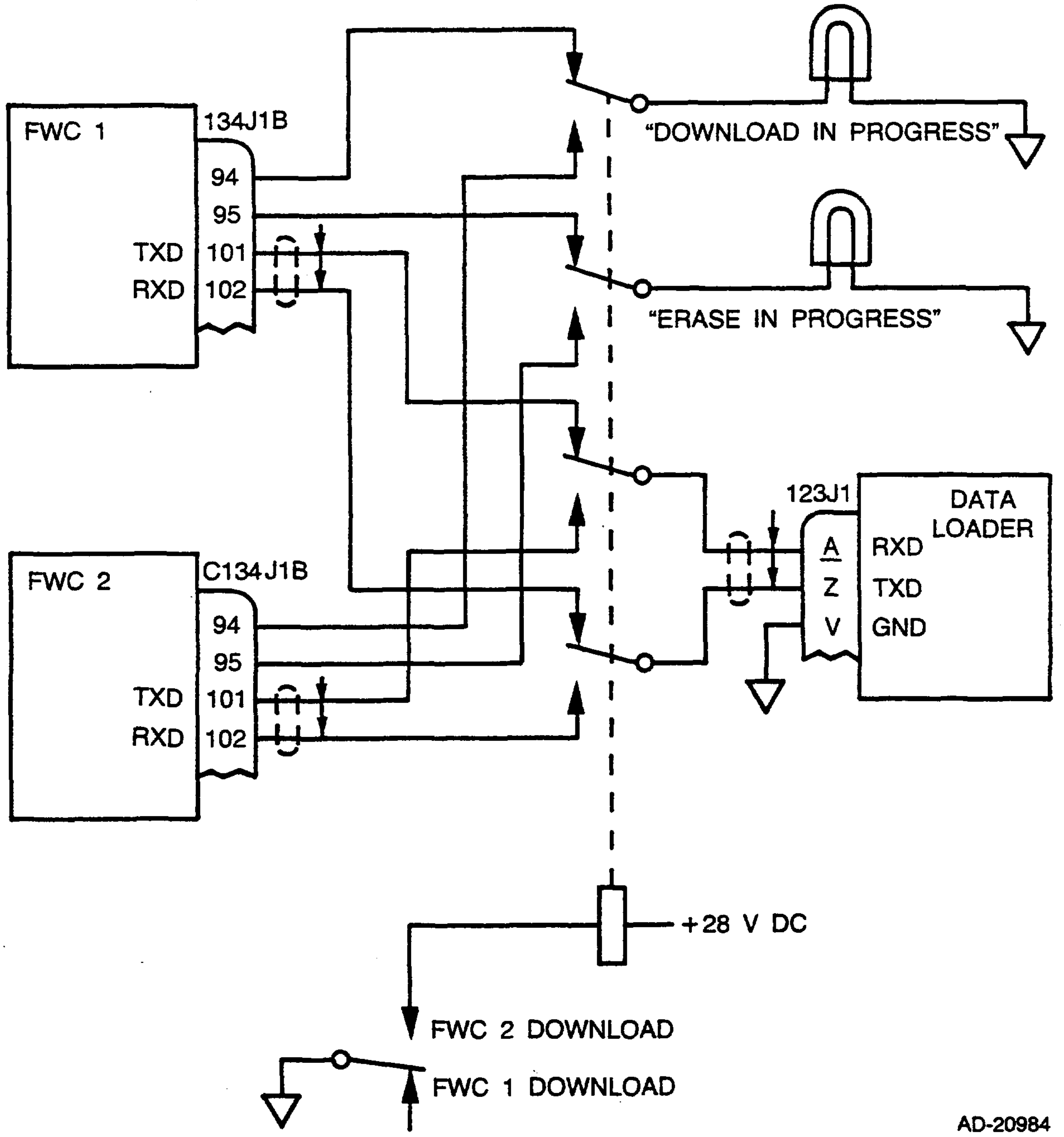
Trend and Limit Memory
Erase Switch Schematic
Figure D-2.2

Interconnect Information
Table 501 (cont)



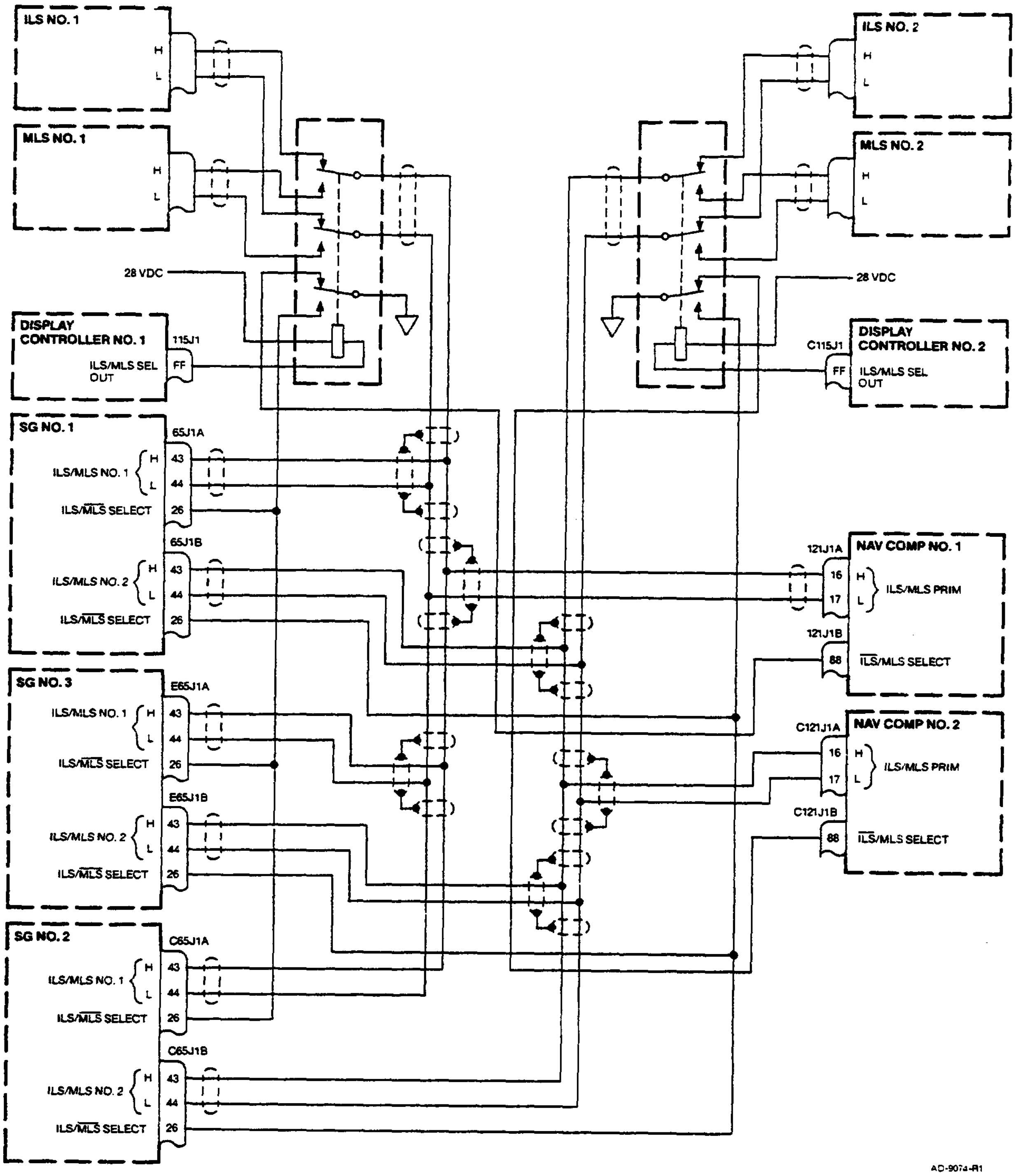
Data Down Load Initiate Switch Schematic
Figure D-2.3

Interconnect Information
Table 501 (cont)



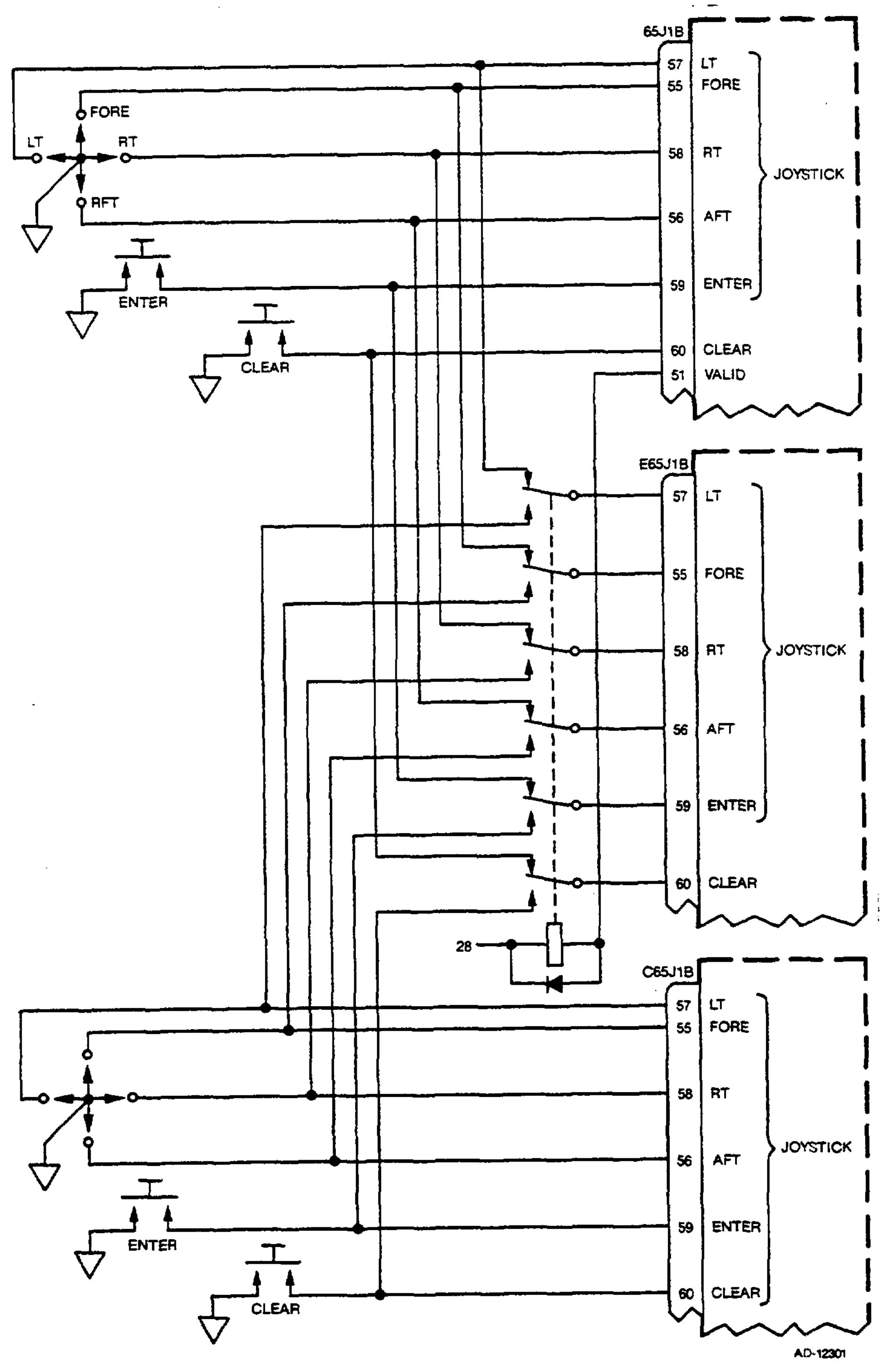
Data Loader/Fault Warning Interface
Figure D-2.4

Interconnect Information
Table 501 (cont)



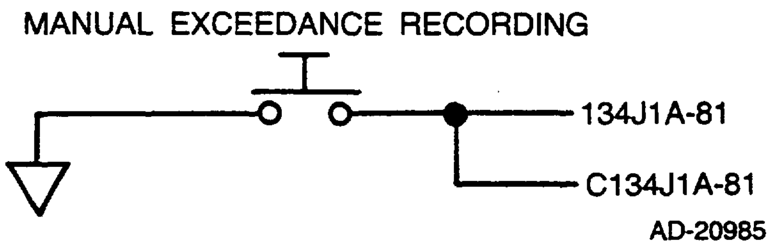
ILS/MLS Switching Schematic
Figure D-2.5

Interconnect Information
Table 501 (cont)



Joystick Schematic
Figure D-2.6

Interconnect Information
Table 501 (cont)

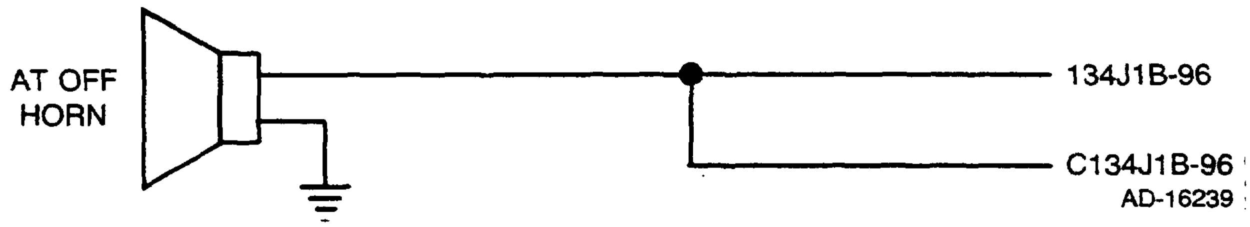


Trend and Limit Manual Exceedance Recording
Figure D-2.7

Interconnect Information
Table 501 (cont)

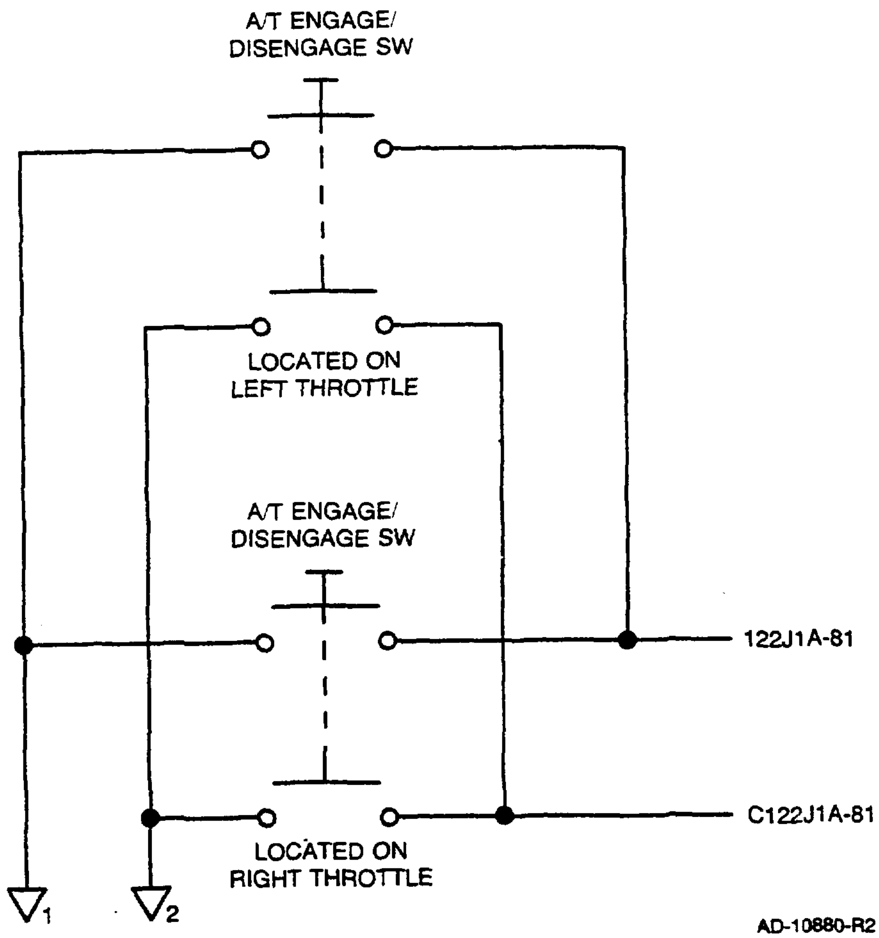
3.0 FMCS SCHEMATICS

The following figures depict FMCS interconnect configurations that should be utilized in the aircraft installation.



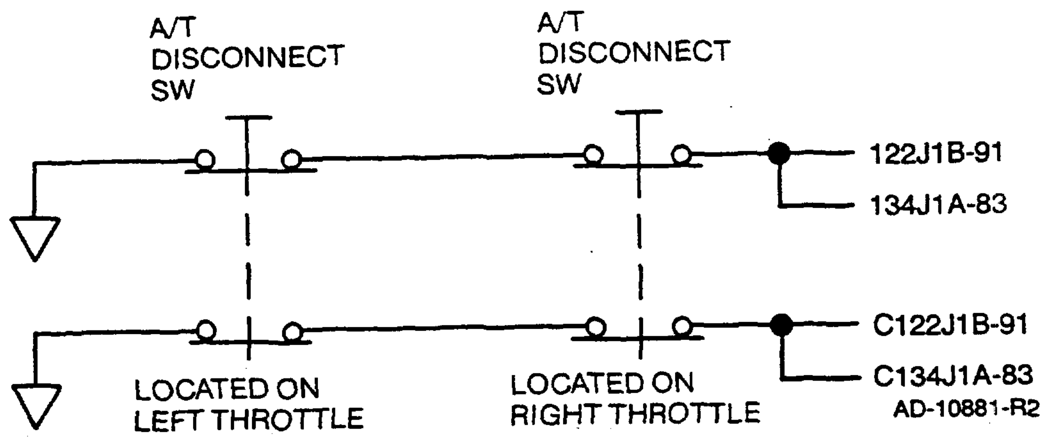
Autothrottle Off Horn
Figure D-3.1

Interconnect Information
Table 501 (cont)



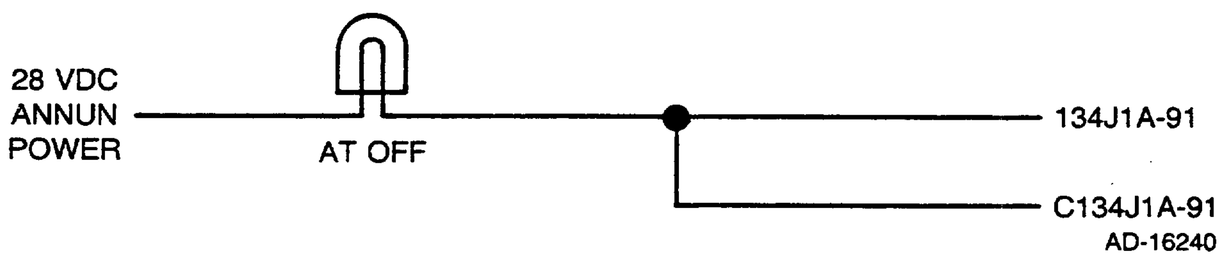
A/T Engage/Disengage Switch Schematic
Figure D-3.2

Interconnect Information
Table 501 (cont)



A/T Disconnect Switch Schematic
Figure D-3.3

Interconnect Information
Table 501 (cont)

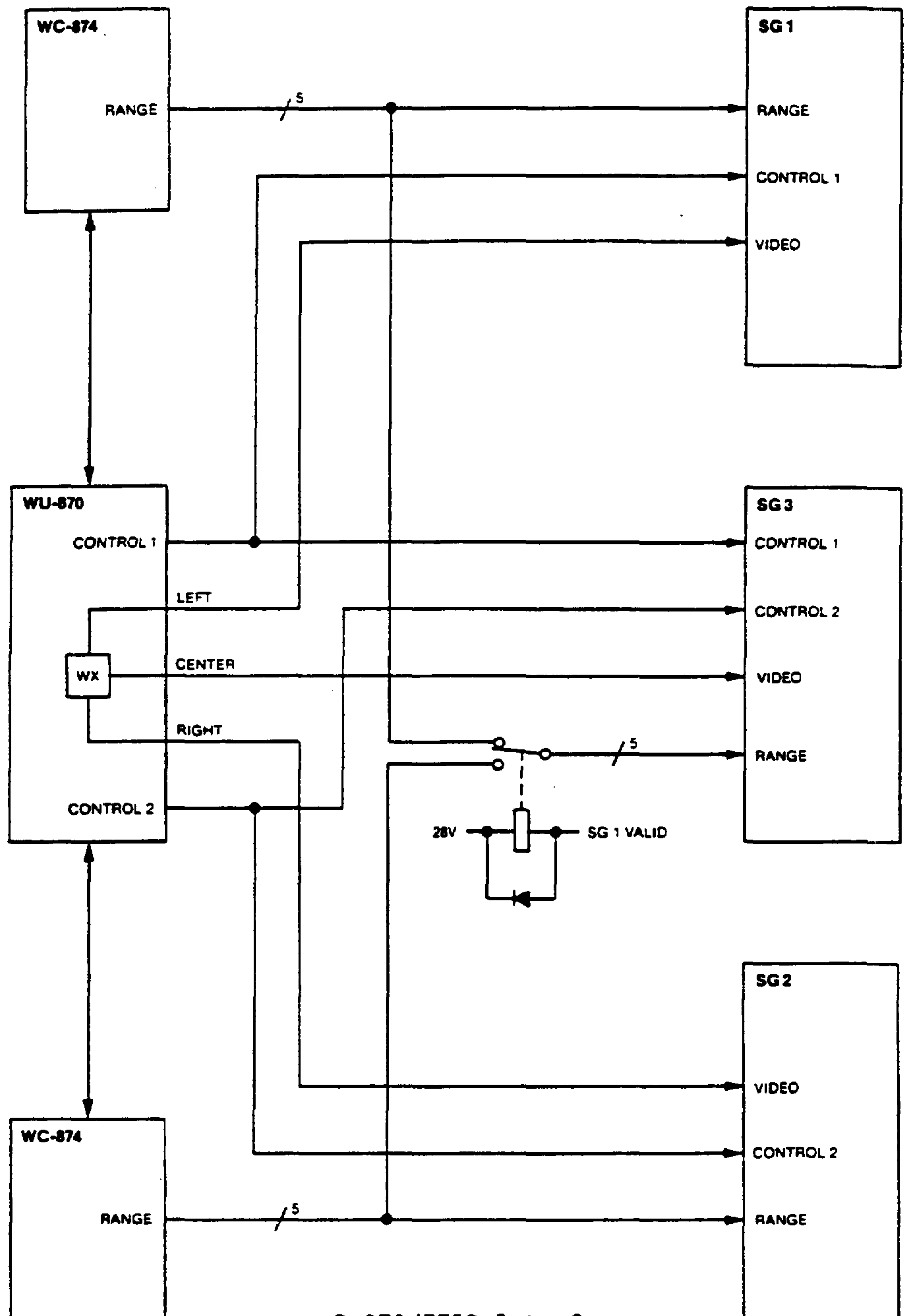


Autothrottle Off Annunciator
Figure D-3.4

Interconnect Information
Table 501 (cont)

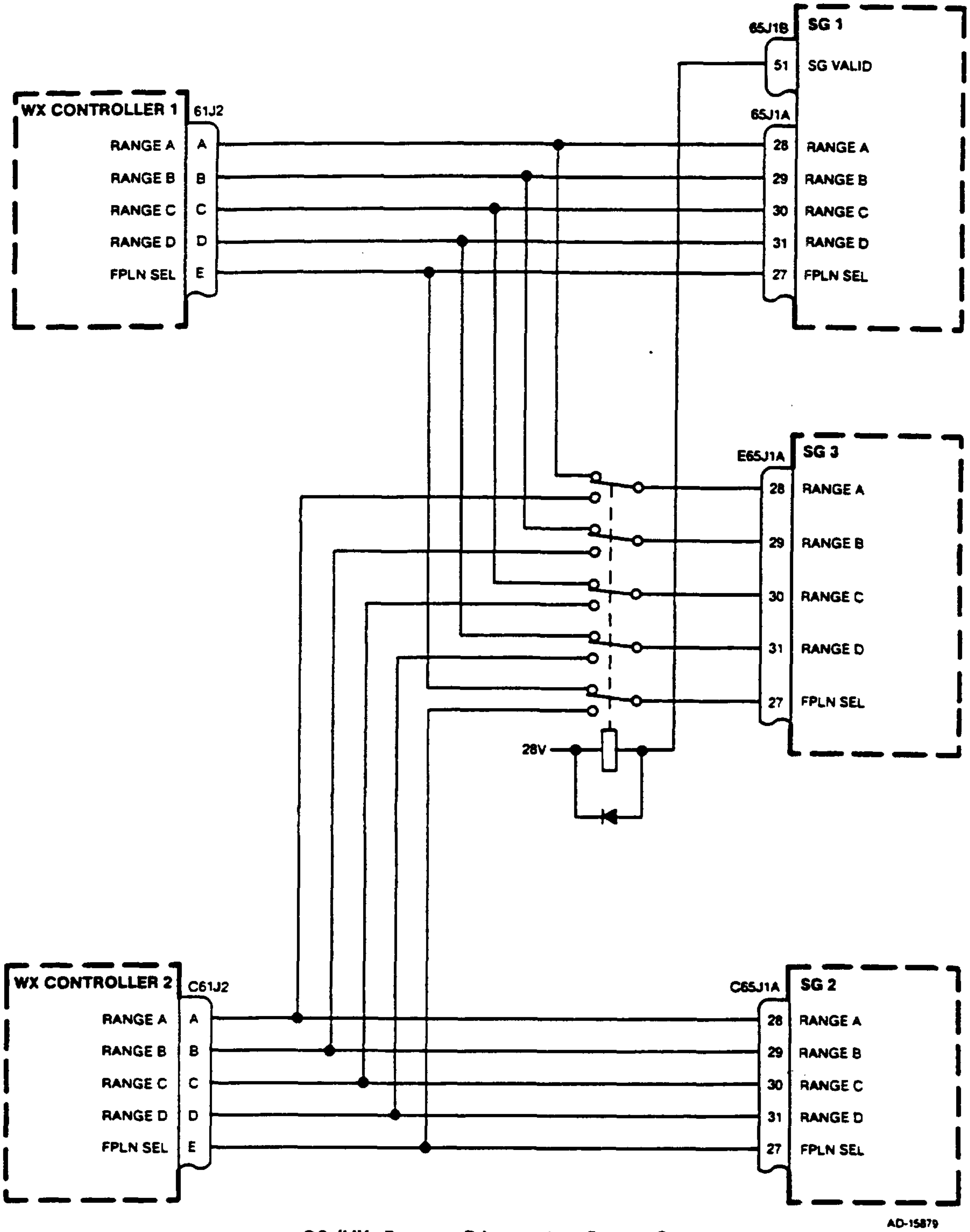
4.0 WEATHER RADAR SCHEMATICS

The following figures depict WX interconnect configurations that should be utilized in the aircraft installation.



P-870/EFIS Interface
Figure D-4.1

Interconnect Information
Table 501 (cont)



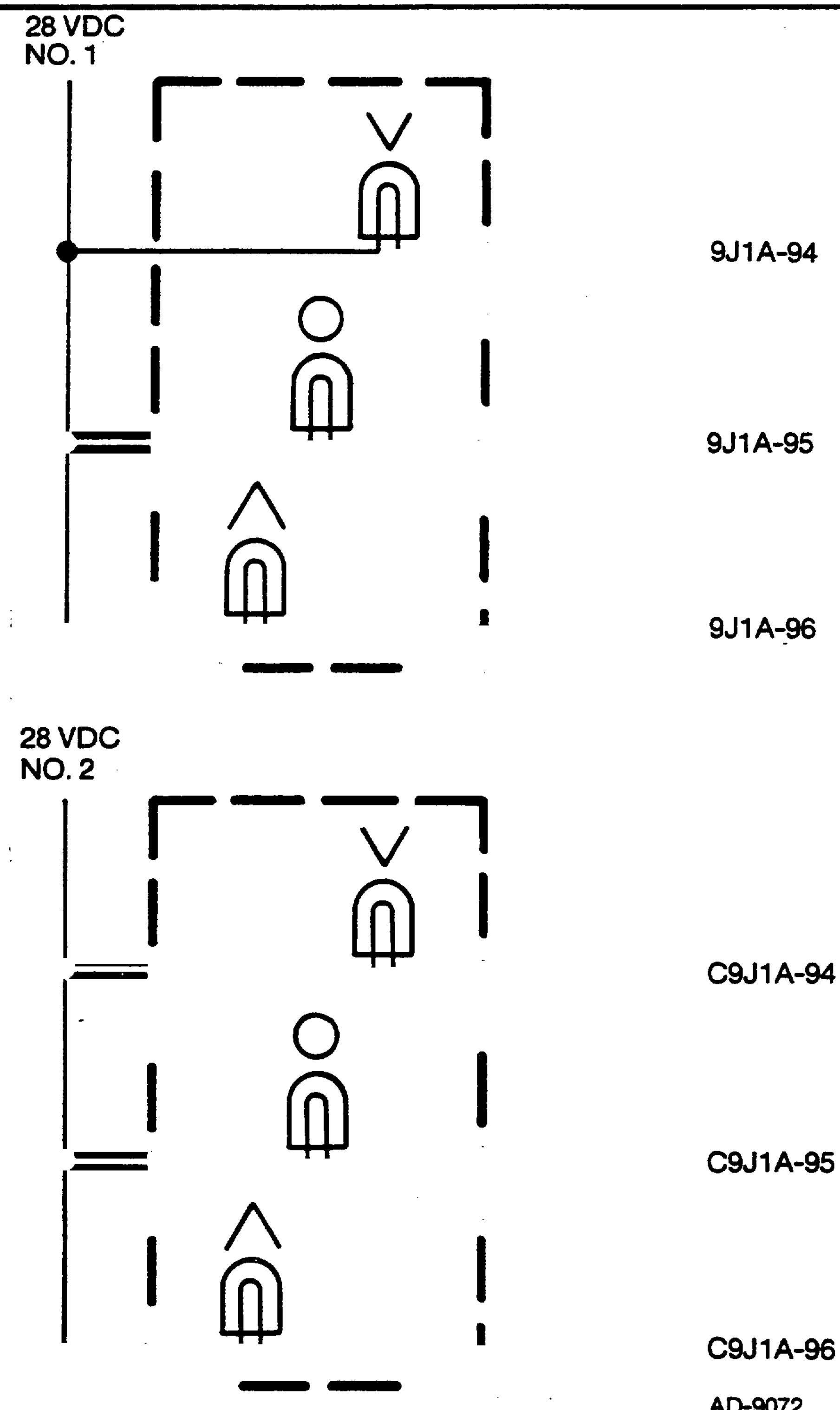
SG/WX Range Discrete Interface
Figure D-4.2

Interconnect Information
Table 501 (cont)

5.0 MISCELLANEOUS SCHEMATICS

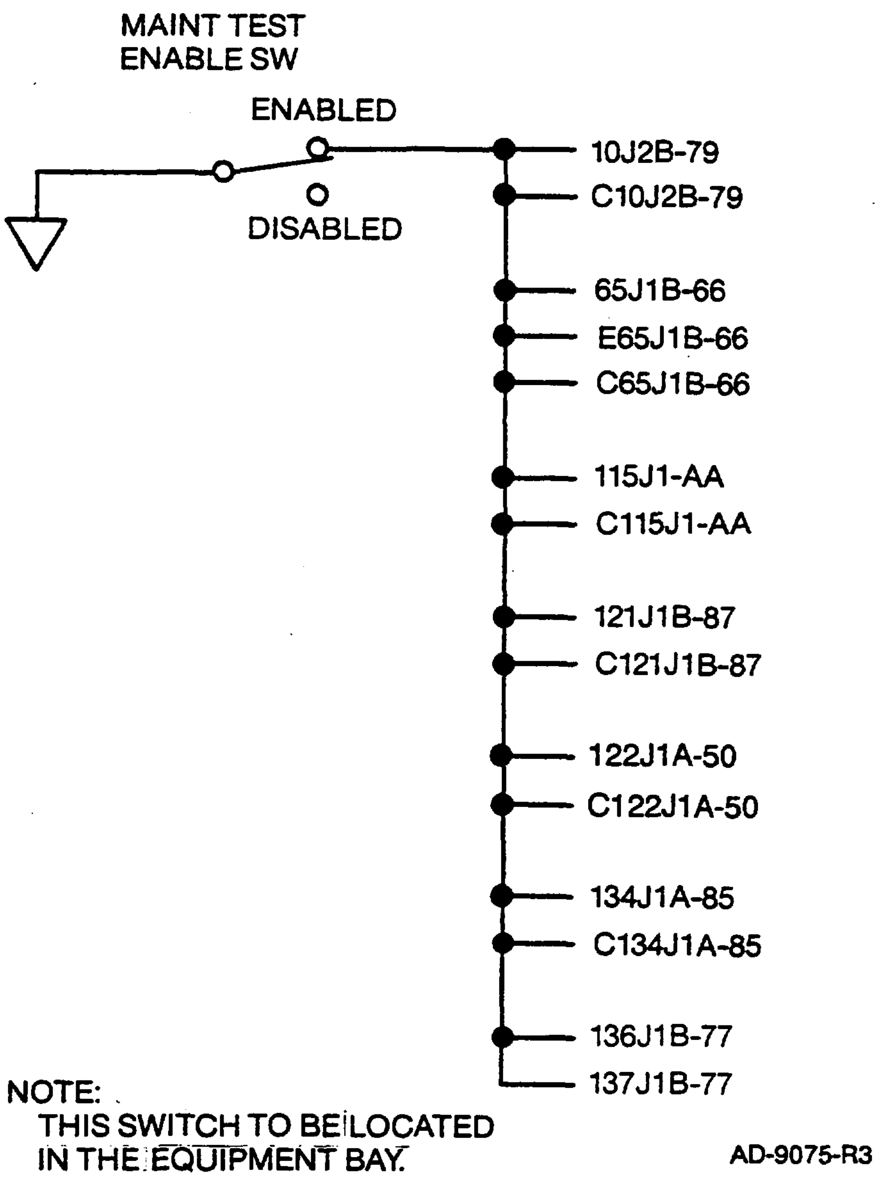
The following figures depict MISC interconnect configurations that should be utilized in the aircraft installation.

Interconnect Information
Table 501 (cont)



AOA Chevron Annunciator Schematic
Figure D-5.1

Interconnect Information
Table 501 (cont)



Maintenance Test Enable Switch Schematic
Figure D-5.2

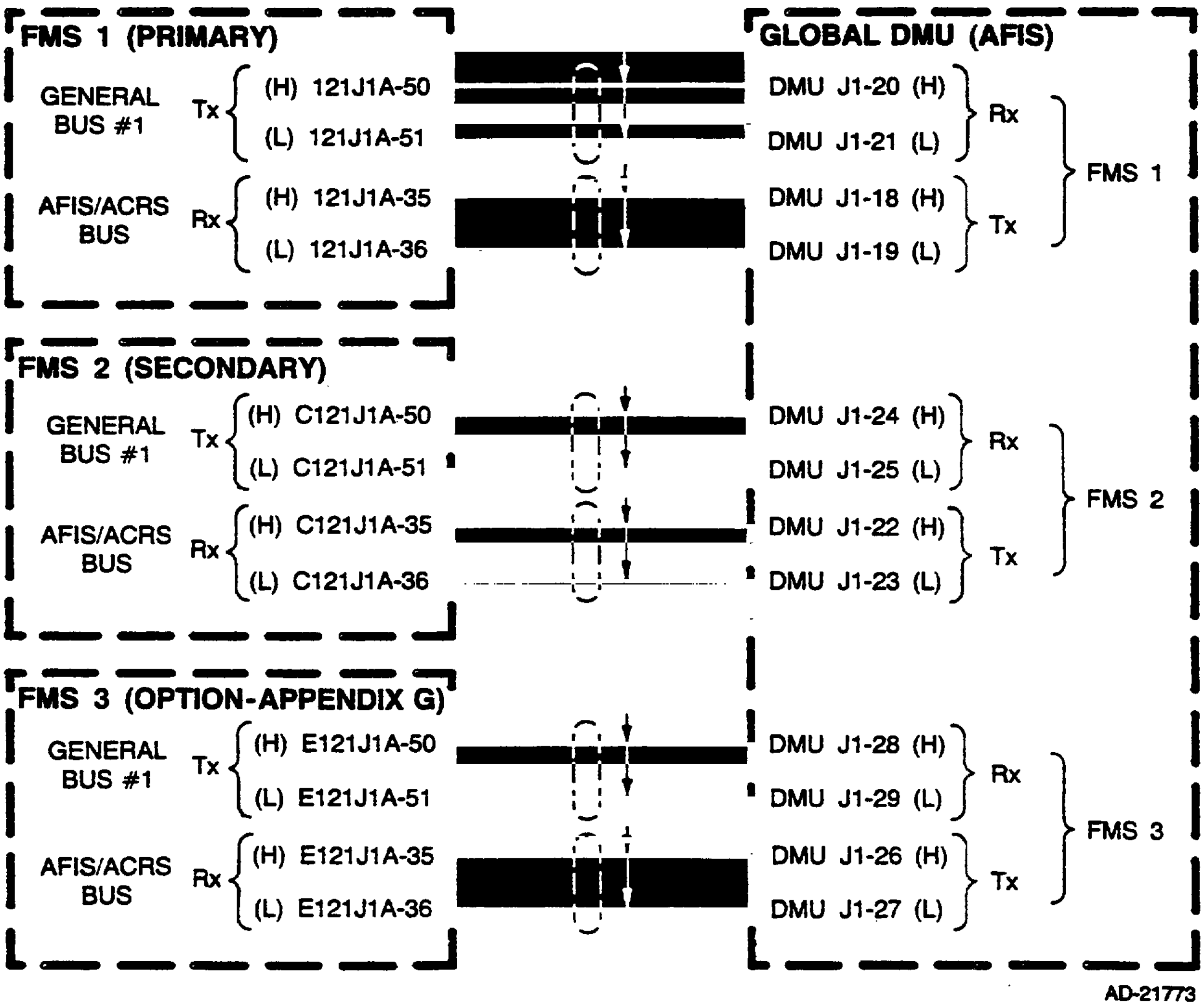
Interconnect Information
Table 501 (cont)

6.0 AFIS INTERCONNECT SCHEMATICS

The following figures depict AFIS interconnect wiring that should be used in the aircraft installation.

Figure D-6.1 AFIS Interconnect Schematic

Interconnect Information
Table 501 (cont)



AFIS Interconnect Schematic
Figure D-6.1

Interconnect Information
Table 501 (cont)

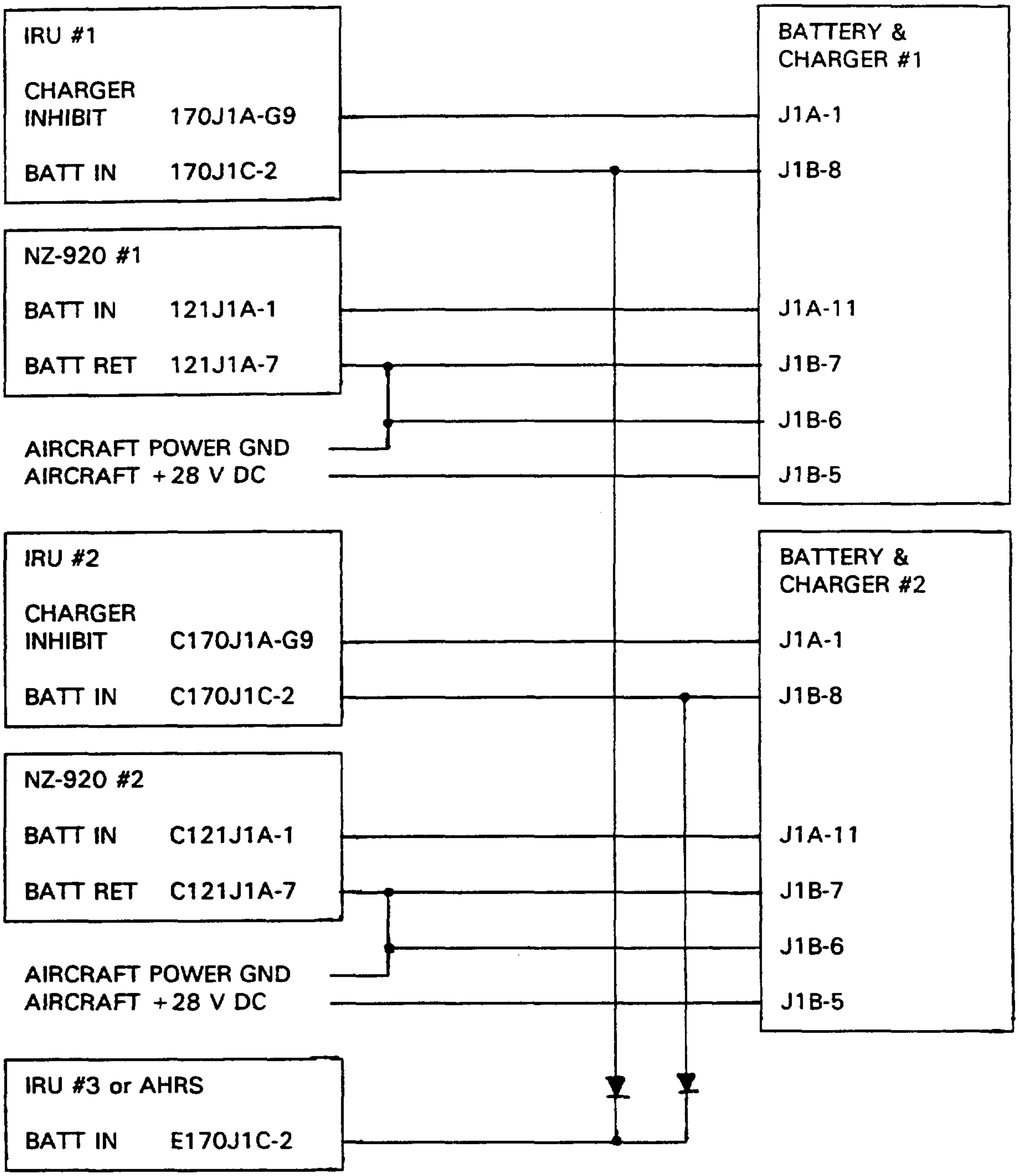
7.0 IRS INTERCONNECT SCHEMATICS

The following figures depict IRS interconnect wiring that should be used in the aircraft installation.

Unit	Signal	Pin	DIM & TEST PANEL	DIM & TEST PANEL	MSU
IRU 1	ALIGN ANNUN	170J1B-F3	J2B-57	J2B-84	172J1-a
IRU 1	ON BATT ANNUN	170J1B-J15	J2B-56	J2B-98	172J1-g
IRU 1	BATT FAIL ANNUN	170J1B-A15	J2B-55	J2B-85	172J1-Z
IRU 1	FAIL ANNUN	170J1B-D2	J2B-54	J2B-99	172J1-P
IRU 2	ALIGN ANNUN	C170J1B-F3	J2B-53	J2B-86	172J3-a
IRU 2	ON BATT ANNUN	C170J1B-J15	J2B-67	J2B-100	172J3-g
IRU 2	BATT FAIL ANNUN	C170J1B-A15	J2B-68	J2B-87	172J3-Z
IRU 2	FAIL ANNUN	C170J1B-D2	J2B-80	J2B-101	172J3-P
IRU 3 or AHRS	ALIGN ANNUN	E170J1B-F3	J2B-94	J2B-69	172J2-a
IRU 3 or AHRS	ON BATT ANNUN	E170J1B-J15	J2B-81	J2B-97	172J2-g
IRU 3 or AHRS	BATT FAIL ANNUN	E170J1B-A15	J2B-82	J2B-83	172J2-Z
IRU 3 or AHRS	FAIL ANNUN	E170J1B-D2	J2B-95	J2B-96	172J2-P

Dimming and Test Panel Interconnect
Figure D-7.1

Interconnect Information
Table 501 (cont)



Battery and Charger Interconnect
Figure D-7.2

Interconnect Information
Table 501 (cont)

APPENDIX E
ENVIRONMENTAL REQUIREMENTS

APPENDIX E
ENVIRONMENTAL REQUIREMENTS

1.0 ENVIRONMENTAL TESTS

Unless otherwise specified the test procedures applicable to a determination of equipment performance under environmental test conditions are set forth in the RTCA Document DO 160A, "Enviornmental Conditions and Test Procedures for Airborne Equipment", January, 1980 and AS-8034 Minimum Performance Standards for Airborne Multipurpose Electronic Displays, December, 1982.

The P-870 Weather Radar System has been qualified to DO-160B. For a list of specific catagories refer to table E-1.

The equipment not previously qualified shall be submitted to and shall successfully pass the following applicable simulated environmental conditions for the categories and levels specified or shall be qualified by similarity.

1.1 Temperature and Altitude

RTCA Document DO-160A contains several temperature and altitude test procedures which are specified according to the category for which the equipment will be used.

1.1.1 Low Temperature Test

The equipment shall be subjected to the test conditions of RTCA/DO-160A para. 4.4 and meet the requirements of the respective System Specification Performance Test section.

DO-160A PARA. 4.0	REMOTE. CAT.A2F2	COCKPIT. CAT.A1F1.
OPERATING TEMPERATURE	-55 Degrees.	-30 Degrees.

1.1.2 High Temperature Test

The equipment shall be subjected to the test conditions of RTCA/DO-160A para. 4.5 and meet the requirements of the respective System Specification Performance Test section.

	REMOTE.	COCKPIT.
OPERATING TEMPERATURE	+70 Degrees.	+55 Degrees.

1.2 Altitude Tests

1.2.1 Altitude

The equipment shall be subjected to the test conditions of RTC/DO-160A para. 4.6.1 and meet the requirements of the respective System Specification Performance Test section.

1.2.2 Decompression Test

The equipment shall be subjected to the test conditions of RTC/DO-160A para. 4.6.2 and meet the requirements of the respective System Specification Performance Test section.

1.2.3 Overpressure Test

The equipment shall be subjected to the test conditions of RTC/DO-160A para. 4.6.3 and meet the requirements of the respective System Specification Performance Test section.

1.3 Temperature Variation Test

The equipment shall be subjected to the test conditions of RTC/DO-160A para. 5.0 and meet the requirements of the respective System Specification Performance Test section.

CAT.C

TEMPERATURE RATE .... 2 Deg C/Min.

1.4 Humidity Test

The equipment shall be subjected to the test conditions of RTC/DO-160A para. 6.0 and meet the requirements of the respective System Specification Performance Test section.

CAT.A

HUMIDITY .... 95% for 48 hours.

Interconnect Information
Table 501 (cont)

1.5 Shock Test

1.5.1 Operational Shocks

The equipment shall be subjected to the test conditions of RTC/DO-160A para. 7.1 and meet the requirements of the respective System Specification Performance Test section.

OPERATIONAL 6G

1.5.2 Crash Safety Shocks

The equipment shall be subjected to the test conditions of RTC/DO-160A para. 7.2.

CRASH SAFETY 15G

1.6 Vibration Test

CAT.0

The equipment shall be subjected to the test conditions of RTC/DO-160A para. 8.0 and meet the requirements of the respective System Specification Performance Test section.

1.7 Explosive Mixture Test

DO-160 PARA. 9.0

The equipment is not installed in an explosive mixture environment and is therefore not subject to this test.

1.8 Waterproofness Test

DO-160 PARA. 10.0

The equipment is not installed in an environment requiring these tests and they will not be conducted.

1.9 Fluids Susceptibility

DO-160A PARA 11.0

The equipment is not installed in an environment containing these fluids and is therefore not subject to this test.

Interconnect Information
Table 501 (cont)

1.10 Sand and Dust

DO-160A PARA. 12.0

The equipment is not installed in a sand laden moderate wind condition environment and is therefore not subject to this test.

1.11 Fungus Growth Test

DO-160 PARA. 13.0

The equipment design uses components that do not contain organic materials so is therefore not subject to this test.

1.12 Salt Spray

DO-160 PARA. 14.0

The equipment is not installed in a salt laden moderate wind condition environment and is therefore not subject to this test.

1.13 Magnetic Effect

The equipment shall be subjected to the test conditions of RTC/DO-160A para. 15.0 and meet the requirements of the respective System Specification Performance Test section.

CATEGORY SELECTION BASED ON TEST RESULTS

1.14 Power Supply Input Tests

1.14.1 Normal Operating Conditions

The equipment shall be subjected to the test conditions of RTC/DO-160A para. 16.3.1 and 16.3.2 and meet the requirements of the respective System Specification Performance Test section.

CAT.A

1.14.2 Abnormal Operating Conditions

The equipment shall be subjected to the test conditions of RTC/DO-160A para. 16.3.3 and 16.3.4 and meet the requirements of the respective System Specification Performance Test section.

CAT.A

Interconnect Information
Table 501 (cont)

1.15 Voltage Spike

DO-160 PARA. 17.0 CAT.A

The equipment shall be subjected to the test conditions of RTC/DO-160A para. 17.3 and meet the requirements of the respective System Specification Performance Test section.

600 Volt, 10u Sec.
Source Impedance 50 ohms.

1.16 Audio Frequency Conducted Susceptibility

The equipment shall be subjected to the test conditions of RTC/DO-160A para. 18.0 and meet the requirements of the respective System Specification Performance Test section.

CAT.Z

MAXIMUM RIPPLE .... 1.4 VOLTS.

1.17 Induced Signal Susceptibility

The equipment shall be subjected to the test conditions of RTC/DO-160A para. 19.0 and meet the requirements of the respective System Specification Performance Test section.

CAT.A

1.18 Radio Frequency Susceptibility

The equipment shall be subjected to the test conditions of RTC/DO-160A para. 20.0 and meet the requirements of the respective System Specification Performance Test section.

EQUIPMENT SHALL BE TESTED TO CAT Z REQUIREMENTS AND OFFENDING FREQUENCIES IDENTIFIED

1.19 Emission of Radio Frequencies

The equipment shall be subjected to the test conditions of RTC/DO-160A para. 21.0 and meet the requirements of the respective System Specification Performance Test section.

CAT.A

Interconnect Information
Table 501 (cont)

1.20 X-Ray Radiation (Display Units Only)

The equipment shall meet the requirements of Document AS-8034 para. 5.20.

1.21 Ultraviolet Radiation (Display Units Only)

The equipment shall meet the requirements of Document AS-8034 para. 5.21.

1.22 Fogging (Display Units Only)

The equipment shall meet the requirements of Document AS-8034 para. 5.22.

1.23 Thermal Shock (Display Units Only)

The equipment shall meet the requirements of Document AS-8034 para. 5.23.

1.24 Dielectric Test (Display Units Only)

The equipment shall meet the requirements of Document AS-8034 para. 5.24 after completion of all other qualification tests.

Interconnect Information
Table 501 (cont)

Table E-1
P-870 Environmental Qualifications

Category	Qualifications	
	WU-870	WC-874
Temperature Altitude	F2	B1
Temperature Variation	B	C
Humidity	A	A
Shock - Operational	6g	6g
Crash Safety	15g	15g
Vibration	JLY	KS
Explosion	X	X
Waterproofness	X	X
Fluid Susceptibility	X	X
Sand and Dust	X	X
Fungus Resistance	X	X
Salt Spray	X	X
Magnetic Effect	A	A
Power Input	A	A
Voltage Spike	A	A
AF Conducted Susceptibility	A	A
Induced Signal Susceptibility	A	A
RF Susceptibility	A	A
RF Emissions	A	A

Interconnect Information
Table 501 (cont)

APPENDIX F
LSZ-850 LIGHTNING SENSOR SYSTEM
INSTALLATION

APPENDIX F
LSZ-850 LIGHTNING SENSOR SYSTEM INSTALLATION

1.0 LSZ-850 LIGHTNING SENSOR SYSTEM INSTALLATION

1.1 Scope

This appendix provides installation information for the Lightning Sensor System (LSS). Included is mechanical and electrical data for the Lightning System as well as interconnect information necessary to tie this system into the G-IV system. Wiring modifications required for the baseline G-IV units are also provided.

1.2 Functional Description

The LSS is a passive (non-radiating) system which is approved for use under FAA TSO C110. It detects electromagnetic and electrostatic field disturbances present during thunderstorm activity. This lightning activity is analyzed and formatted for display on the EFIS as an aid in severe weather avoidance. The system consists of the LP-850 Processing Unit, the LU-860 Controller, and the AT-850 Antenna.

The LP-850 Processor Unit interfaces with the antenna, controller, and other aircraft sensors, for analyzing input data, and formatting and transmitting data to EFIS (Symbol Generator). Communication to EFIS is via an ARINC 429 serial bus.

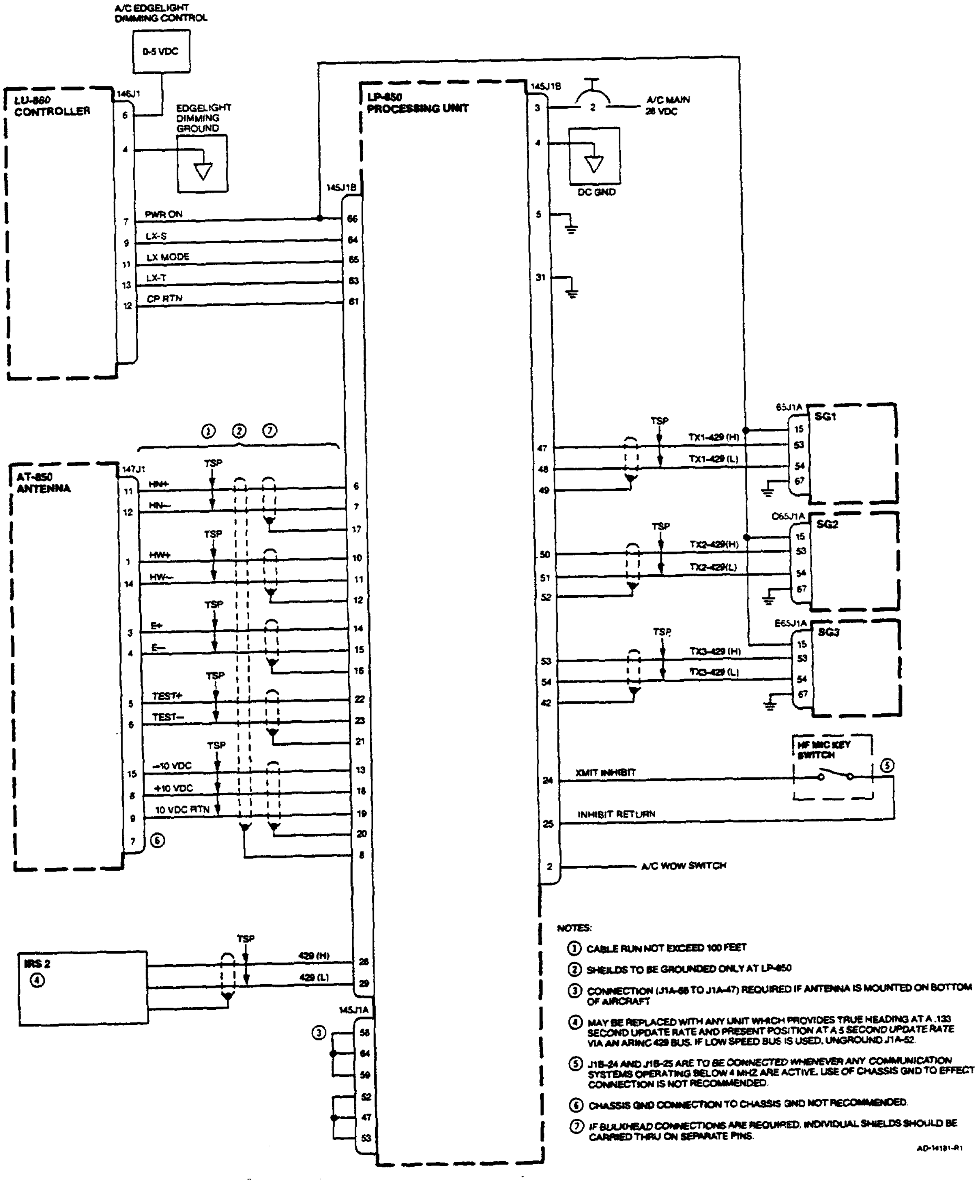
NOTE: Lightning data is available for all 7008570-XXX Symbol Generators except the -913. Lightning is not displayed when using a 7008570-913.

The LU-860 Controller provides the LSS with pushbutton mode selections of OFF, STANDBY, LX, and CLEAR/TEST.

The AT-850 antenna assembly is a low profile unit which mounts on an exterior surface of the aircraft. It receives and amplifies orthogonal magnetic fields and the electrostatic field.

A test circuit is provided which exercises the antenna and antenna/processor unit link by having the processor unit provide a test stimulus to the antenna. The resultant antenna inputs are analyzed and displayed in the normal manner to allow the operator to verify the operation of the system.

Figure F-1 shows a block diagram of the system. An equipment list is provided in Table F-1.



G-IV Lightning Sensor System Block Diagram
Figure F-1

Interconnect Information
Table 501 (cont)

Table F-1
LSZ-850 Lightning Sensor System Equipment List

Connector Designator	Description	Qty	Part Number	Outline & Installation Dwg. No.	Mating Connector	Mounting Hardware
145J1A, 145J1B	LP-850 Processor Unit	1	7011822-903	7011823	DPX2MA-67S-67S-33B-0011 (SPN 2500122-1)	1/4 ATR Short Tray (SPN 7011839-901)
146J1	LU-860 Controller	1	7012738-905/ -906*	7012739	MS27473E-10A35S (SPN 4011518-25)	Dzus Mount
147J1	AT-850 Antenna (Tear-drop)	1	4057697-901	4057962	MS27473E12-35S (SPN 4011518-060)	10-32 Socket Screws (3)
147J1	AT-855 Antenna (Brick)	1	7014062-902	7014072	MS27473E12-35S (SPN 4011518-060)	#8 Screws w/max Washer Dia. of .350 inch

* NOTE: Bezel Color, Gray/Black

1.3 Installation Information

1.3.1 LP-850 Processor Unit

The processor unit is housed in a 1/4 ATR short rack and is designed to mount in the aircraft employing a standard 1/4 ATR tray using a single thumb screw insertion/holdown nut. An extraction handle shall be mounted under the front rack overhang. Outline and installation information, including mating connectors, is provided in Table F-1.

There are no external cooling requirements for the processor unit. A minimum one inch clearance shall be provided between the top, back, sides, and front of the unit and any adjacent equipment for thermal isolation.

For optimum service life, the processor unit shall be installed in a location where ambient temperature is between -20 and +40 degrees C.

1.3.2 LU-860 Controller

The LU-860 contains four pushbuttons for mode control of the LSS. Mounting is accomplished using Dzus fasteners located on either side of the front panel. Outline and installation information, including mating connectors, is provided in Table F-1.

There are no power requirements, other than that necessary for panel lighting.

There are no external cooling requirements for the controller.

1.3.3 AT-850 Antenna

The antenna is a low profile non-standard assembly which mounts on the aircraft exterior surface. The assembly is covered with a glass reinforced thermoplastic injection molded cover which is coated with an anti P-static material. The antenna is secured to the aircraft using a silicone gasket for sealing cabin pressure and 3 - 10/32 hex socket screws. Outline and installation information, included mating connectors, is provided in Table F-1.

The operation of the LSS is very dependent on proper placement of the antenna. The site for the antenna shall be determined by using Honeywell test equipment, or equivalent, which is specifically designed to provide the necessary test signals to allow evaluation of the possible aircraft mounting locations.

Interconnect Information
Table 501 (cont)

1.4 Environmental Qualifications

1.4.1 LP-850 Processor Unit

The LP-850 Processor Unit is qualified to the following DO-160B standards: F2A/JLY/YXXXXXAAAZA.

1.4.2 LU-860 Controller

The LU-860 Controller is qualified to the following DO-160B standards: F2A/PKS/YXXXXXAAAZA.

1.4.3 AT-850 Antenna

The AT-850 Antenna is qualified to the following DO-160B standards: F2A/JLY/YSFXXXAAAZA.

1.5 Power and Grounding Requirements

The power and grounding requirements are as described in Section 3 of this document. Table F-2 specifies the type and amount of power needed by each LSS unit.

1.6 Weight

See Table F-2 for weight information.

1.7 Other Mounting/Wiring Requirements

The cable run from the antenna to the processor unit shall not exceed 150 feet.

Defeating of the LSS antenna inputs is required when those communication systems operating at or below 4 MHz are active. A circuit in the LP-850 unit has been provided to allow this. This circuit requires that pins 145J1B-24 and 145J1B-25 be connected together to accomplish the defeating. Connection of these pins through the aircraft frame is not recommended.

Shielding of signal wires connecting the processor and antenna units should be grounded at the LP-850 Processor Unit only. Grounding of the shields at the AT-850 may cause excessive noise levels on the lines. Shields must be kept separate. If bulkhead connections are required, individual shields shall be carried through on separate pins.

IRS information may be replaced with any unit which provides true heading at a minimum .133 second update rate and present position at a minimum 5 second update rate via an ARINC 429 bus.

Interconnect Information
Table 501 (cont)

Pin 7 of the AT-850 unit is chassis ground. Connection of this pin to chassis ground is not recommended and should be used only in those applications which require each unit to be grounded to the chassis.

1.8 Interconnect Information

Interconnect data for the entire LSZ-850 installation follows. Complete information is provided for the processor, controller, and antenna, as well as modifications required for the baseline G-IV components.

Table F-2
Lightning Sensor System Power and Weight Parameters

UNIT	WEIGHT	POWER TYPE	POWER CONSUMPTION
LP-850	6.75 LBS	28Vdc	28 W
AT-850	2.5 LBS	±10Vdc *	0.75 W
LU-860	0.5 LBS	28Vdc	0.7 W

* Supplied by processor unit

Interconnect Information
Table 501 (cont)

Processor Unit

IOB P	Function	Connector Pin	Connects To
(I)	HREF (H)	145J1A-1 ------NC	
(I)	HREF (L)	-2 ------NC	
	SPARE	-3	
	SPARE	-4	
	SPARE	-5	
(I)	VREF (H)	-6 ------NC	
(I)	VREF (L)	-7 ------NC	
(O)	RED VIDEO (H)	-8 ------NC	
(O)	RED VIDEO (L)	-9 ------NC	
(O)	GREEN VIDEO (H)	-10 ------NC	
(O)	GREEN VIDEO (L)	-11 ------NC	
(O)	RED/GREEN VIDEO SHIELD	-12 ------NC	
(O)	BLUE/VIDEO SEL SHIELD	-13 ------NC	
(O)	BLUE VIDEO (H)	-14 ------NC	
(O)	BLUE VIDEO (L)	-15 ------NC	
(O)	VIDEO SEL (H)	-16 ------NC	
(O)	VIDEO SEL (L)	-17 ------NC	
(P)	DC RETURN	-18 ------NC	
(O)	STBY WX *	-19 ------NC	
(I)	RANGE 0	-20 ------NC	
(I)	RANGE 1	-21 ------NC	
(I)	RANGE 2	-22 ------NC	
(I)	RANGE 3	-23 ------NC	
(O)	HS (H)	-24 ------NC	
(O)	HREF (H)	-25 ------NC	
(O)	HREF (L)	-26 ------NC	
(O)	HREF/VREF SHIELD	-27 ------NC	
(O)	VREF (H)	-28 ------NC	
(O)	VREF (L)	-29 ------NC	
(I)	RED VIDEO (H)	-30 ------NC	
(I)	RED VIDEO (L)	-31 ------NC	
(P)	DC RETURN	-32 ------NC	
(I)	GREEN VIDEO (H)	-33 ------NC	
(I)	GREEN VIDEO (L)	-34 ------NC	
(I)	BLUE VIDEO (H)	-35 ------NC	
(I)	BLUE VIDEO (L)	-36 ------NC	
(I)	VIDEO SEL (H)	-37 ------NC	
(I)	VIDEO SEL (L)	-38 ------NC	
(I)	SEL CHK LIST *	-39 ------NC	
(I)	SEL NAV MODE *	-40 ------NC	
(O)	HS (L)	-41 ------NC	
(O)	VS (H)	145J1A-42 ------NC	

Interconnect Information
Table 501 (cont)

Processor Unit

IOB P	Function	Connector Pin	Connects To
(I)	TEST MODE 1 *	145J1A-43 ------NC	
(I)	TEST MODE 2 *	-44 ------NC	
(I)	TEST RETURN	-45 ------NC	
(O)	VS (L)	-46 ------NC	
(I)	CS COMMON	-47 (22)--------------------	145J1A-52, 145J1A-53
(I)	CS 1	-48 ------NC	
(I)	CS 2	-49 ------NC	
(I)	CS 3	-50 ------NC	
(I)	CS 4	-51 ------NC	
(I)	CS 5	-52 (22)--------------------	145J1A-47
(I)	CS 6	-53 (22)--------------------	145J1A-47
(I)	CS 7	-54 ------NC	
(I)	CS 8	-55 ------NC	
(I)	CS 9	-56 ------NC	
(I)	CS 10	-57 ------NC	
(I)	CS 11	-58 (22)--------------------	145J1A-64 (See Note 1)
(I)	CS 12	-59 (22)--------------------	145J1A-64
(I)	CS 13	-60 ------NC	
(I)	CS 14	-61 ------NC	
(I)	CS 15	-62 ------NC	
(I)	CS 16	-63 ------NC	
(I)	CS COMMON	-64 (22)--------------------	145J1A-58, 145J1A-59
(I)	RS-232 (H)	-65 ------NC	
(O)	RS-232 (H)	-66 ------NC	
(O)	RS-232 COM	145J1A-67 ------NC	

Interconnect Information
Table 501 (cont)

Processor Unit

IOB P	Function	Connector Pin	Connects To
(I)	HDG VALID	145J1B-1 (22)	A/C 28V DC PWR
(I)	WOW *	-2 (22)	A/C WOW SWITCH
(P)	28 VDC POWER	-3 (20)	A/C 28VDC PWR
(P)	28 VDC POWER GND	-4 (20)	A/C 28VDC PWR GND
(P)	CHASSIS GND	-5 (20)	A/C CHASSIS GND
(I)	Hn (H)	-6 (22)	147J1-11
(I)	Hn (L)	-7 (22)	147J1-12
(I)	OUTER SHIELD	-8	
(I)	TAS REF (L)	-9 ------NC	
(I)	Hw (H)	-10 (22)	147J1-1
(I)	Hw (L)	-11 (22)	147J1-14
(I)	Hw SHIELD	-12	
(O)	-10 VDC	-13 (22)	147J1-15
(I)	E (H)	-14 (22)	147J1-3
(I)	E (L)	-15 (22)	147J1-4
(I)	E SHIELD	-16	
(I)	Hn SHIELD	-17	
(O)	+10 VDC	-18 (22)	147J1-8
(O)	10 VDC RETURN	-19 (22)	147J1-9
(O)	10 VDC SHIELD	-20	
(I)	TEST SHIELD	-21	
(O)	TEST LOOP (H)	-22 (22)	147J1-5
(O)	TEST LOOP (L)	-23 (22)	147J1-6
(I)	XMIT INHIBIT	-24 (22)	See Note 2
(I)	XMIT INHIBIT RETURN	-25 (22)	See Note 2
(B)	ARINC 429 (H)	-26 ------NC	
(B)	RECEIVER 1 (L)	-27 ------NC	
(B)	ARINC 429 (H)	-28 (22)	IRS ARINC 429 TRANSMITTER (See Note 3)
(B)	RECEIVER 2 (L)	-29 (22)	
(O)	LX VALID FLAG	-30 ------NC	
(O)	LX VALID FLAG RETURN	-31 ------NC	
(I)	TAS (H)	-32 ------NC	
(I)	TAS (L)	-33 ------NC	
(I)	TAS REF (H)	-34 ------NC	
(I)	IAS (H)	-35 ------NC	
(I)	IAS (L)	-36 ------NC	
(I)	IAS REF (H)	-37 ------NC	
(I)	A/P SPEED REF (H)	-38 ------NC	
(I)	A/P SPEED REF (L)	145J1B-39 ------NC	

Interconnect Information
Table 501 (cont)

Processor Unit

IOB P	Function	Connector Pin		Connects To
(I)	DADC HP (H)	145J1B-40	------NC	
(I)	DADC HP (L)	-41	------NC	
(I)	TRANSMITTER 3 SHIELD	-42	-----------	
(B)	ARINC 429 (H)	-43	------NC	
(B)	TRANSMITTER 4 (L)	-44	------NC	
(I)	TRANSMITTER 4 SHIELD	-45	-----------	
(I)	IAS REF (L)	-46	------NC	
(B)	ARINC 429 (H)	-47	(22)-------------------	65J1A-53
(B)	TRANSMITTER 1 (L)	-48	(22)-------------------	65J1A-54
(I)	TRANSMITTER 1 SHIELD	-49	-----------	
(B)	ARINC 429 (H)	-50	(22)-------------------	C65J1A-53
(B)	TRANSMITTER 2 (L)	-51	(22)-------------------	C65J1A-54
(I)	TRANSMITTER 2 SHIELD	-52	-----------	
(B)	ARINC 429 (H)	-53	(22)-------------------	E65J1A-53
(B)	TRANSMITTER 3 (L)	-54	(22)-------------------	E65J1A-54
(I)	TRANSMITTER 3 SHIELD	-42	-----------	
(I)	HDG (Y)	-55	------NC	
(I)	HDG (Z)	-56	------NC	
(I)	HDG (X)	-57	------NC	
(O)	HDG SYNCHRO (H)	-58	------NC	
(O)	HDG SYNCHRO (L)	-59	------NC	
	SPARE	-60		
(O)	CP RETURN	-61	(22)-------------------	146J1-12
(I)	HDG OFF	-62	------NC	
(I)	LX-T	-63	(22)-------------------	146J1-13
(I)	LX-S	-64	(22)-------------------	146J1-9
(I)	LX MODE	-65	(22)-------------------	146J1-11
(I)	PWR ON	-66	(22)-------------------	146J1-7, 65J1A-15, C65J1A-15, E65J1A-15
	SPARE	145J1B-67		

NOTES:
1. This connection is required if antenna is mounted on bottom of aircraft.
2. 145J1B-24 and 145J1B-25 are to be connected when HF communications are active.
3. IRS input may be replaced with any unit providing true heading at a 0.133 second update rate and present position at a 5 second update rate via an ARINC 429 bus.

Interconnect Information
Table 501 (cont)

Controller Unit

IOB P	Function		Connector Pin	Connects To
	SPARE		146J1-1	
	+28 VDC PANEL DIMMING		-2 ------NC	
	SPARE		-3	
(P)	PANEL DIMMING	(L)	-4 (20)--------------------	A/C 5V LIGHTING CONTROL (L)
	SPARE		-5	
(P)	+5 VDC PANEL DIMMING CONTROL	(H)	-6 (20)--------------------	A/C 5V LIGHTING CONTROL (H)
(I)	POWER ON		-7 (22)--------------------	145J1B-66, 65J1A-15, C65J1A-15, E65J1A-15
	SPARE		-8	
(O)	LX-S		-9 (22)--------------------	145J1B-64
	SPARE		-10	
(O)	LX MODE		-11 (22)-------------------	145J1B-65
(I)	CONT PNL RTN		-12 (22)-------------------	145J1B-61
(O)	LX-T		146J1-13 (22)-------------------	145J1B-63

Interconnect Information
Table 501 (cont)

Antenna

IOB P	Function	Connector Pin	Connects To
(O)	Hw (H)	147J1-1 (22)	145J1B-10
	SPARE	-2	
(O)	E (H)	-3 (22)	145J1B-14
(O)	E (L)	-4 (22)	145J1B-15
(I)	TEST LOOP (H)	-5 (22)	145J1B-22
(I)	TEST LOOP (L)	-6 (22)	145J1B-23
	SPARE	-7	
(I)	+10 VDC	-8 (22)	145J1B-18
(I)	10 VDC RETURN	-9 (22)	145J1B-19
	SPARE	-10	
(O)	Hn (H)	-11 (22)	145J1B-6
(O)	Hn (L)	-12 (22)	145J1B-7
	SPARE	-13	
(O)	Hw (L)	-14 (22)	145J1B-11
(I)	-10 VDC	-15 (22)	145J1B-13
	SPARE	147J1-16 THRU -22	

Interconnect Information
Table 501 (cont)

Symbol Generator No. 1

IOB P	Function	Connector Pin	Connects To
(I)	LX PWR ON	65J1A-15 (22)	145J1B-66, 146J1-7, C65J1A-15, E65J1A-15
(B)	LX (H)	-53 (22)	145J1B-47
(B)	ARINC 429 (L)	-54 (22)	145J1B-48
(I)	LX INSTALLED	65J1A-67 (22)	A/C GND

Symbol Generator No. 2

IOB P	Function	Connector Pin	Connects To
(I)	LX PWR ON	C65J1A-15 (22)	145J1B-66, 146J1-7, 65J1A-15, E65J1A-15
(B)	LX (H)	-53 (22)	145J1B-50
(B)	ARINC 429 (L)	-54 (22)	145J1B-51
(I)	LX INSTALLED	C65J1A-67 (22)	A/C GND

Symbol Generator No. 3

IOB P	Function	Connector Pin	Connects To
(I)	LX PWR ON	E65J1A-15 (22)	145J1B-66, 146J1-7, 65J1A-15, C65J1A-15
(B)	LX (H)	-53 (22)	145J1B-53
(B)	ARINC 429 (L)	-54 (22)	145J1B-54
(I)	LX INSTALLED	E65J1A-67 (22)	A/C GND

Interconnect Information
Table 501 (cont)

APPENDIX G
SPARE FLIGHT MANAGEMENT SYSTEM INSTALLATION

APPENDIX G
SPARE FLIGHT MANAGEMENT SYSTEM INSTALLATION

1.0 SPARE FLIGHT MANAGEMENT SYSTEM INSTALLATION

1.1 Scope

This appendix provides information on the installation of a spare Flight Management System (FMS) into the G-IV cockpit. Included is information on the wiring of the spare as well as a description of the required changes to the baseline G-IV system. A brief operational description of this architecture is also provided.

1.2 Operational Description

Operationally, the spare FMS can be considered to have two basic operating modes: warm spare and replacement. As a warm spare, it navigates using data supplied to it via the ARINC 429 radio and ASCB. It receives the majority of its data in the same manner as FMS #1, primary data from the #1 systems and secondary data from the #2 systems.

The spare is connected to ASCB A and B in the same manner as FMS #2 (i.e. primary is ASCB B and secondary is ASCB A). All ASCB transmissions from the spare are software inhibited.

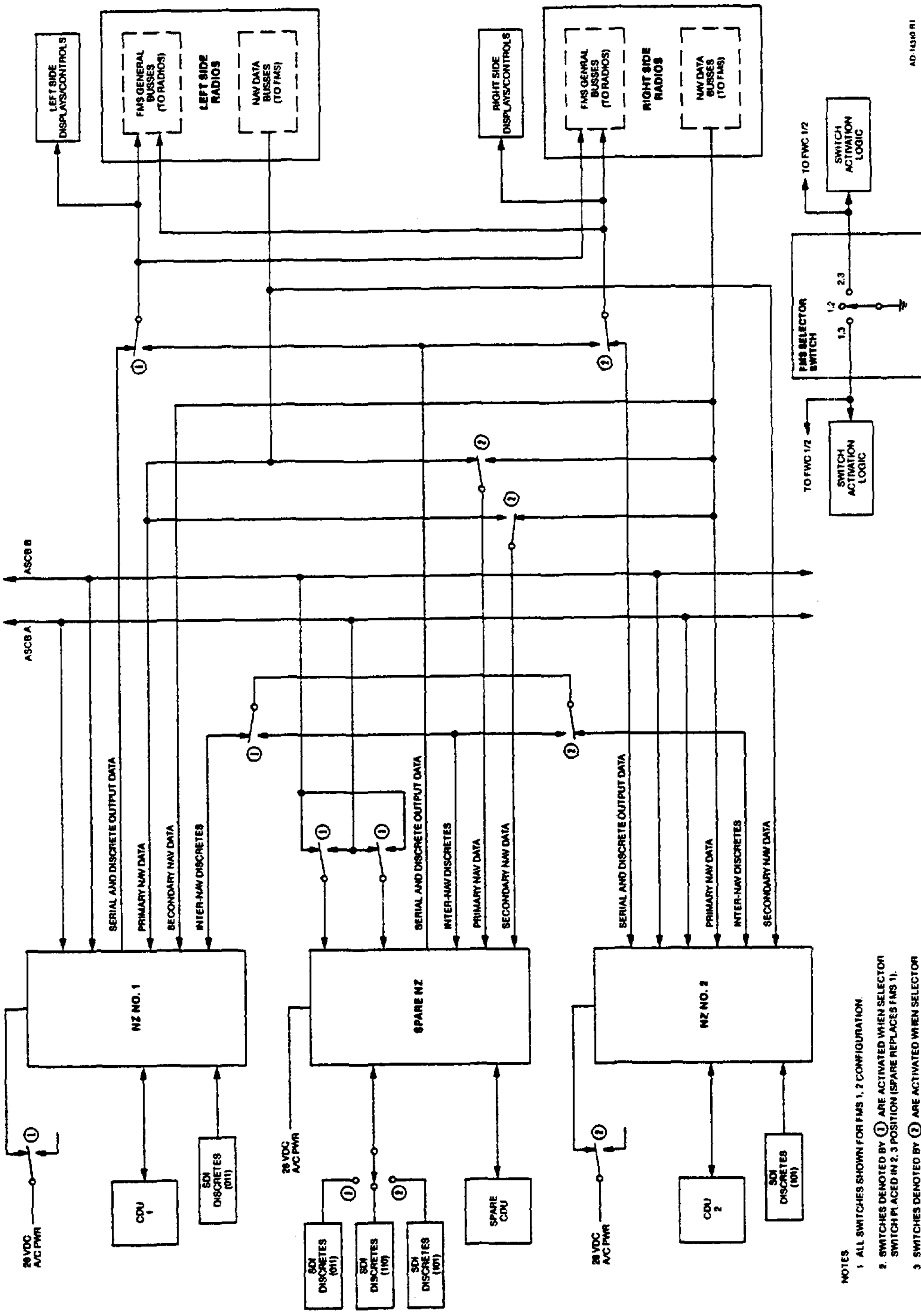
Flight plans can only be loaded into the spare via the spare CDU. The transfer of flight plans from the spare to either #1 or #2 or vice versa cannot be accomplished.

The spare FMS may be selected to replace either FMS #1 or FMS #2. This is accomplished using the FMS selector switch depicted in Figure G-1. When the switch is thrown, the replaced unit is powered down, the spare undergoes a cold start, its active flight plan is replaced with the plan active in the remaining FMS, and it begins to function identically to the replaced unit.

A block diagram of the signal switching required for the three FMS architecture is shown in Figure G.1. Details on the Switching of specific functions is provided in the following sections.

1.3 Mounting Information

The spare FMS is composed of the same units as FMS's #1 and #2, namely an NZ-800 Navigation Computer and a CD-810 Control Display Unit. The DL-800 Data Loader, which is included in the baseline G-IV equipment, is also utilized in this architecture. A third Performance Computer is not included. Refer to Section 2.3 for mounting requirements.



Three FMS Installation Block Diagram
Figure G-1

Interconnect Information
Table 501 (cont)

1.4 Fault Warning Computer Interface

The Fault Warning Computer (FWC) interfaces with the spare through the SPARE CDU VALID and SPARE NZ VALID discretes. Three other discrete inputs have been added to the FWC. These are: SPARE FMS INSTALLED (indicating a spare is installed), SPARE FMS ACTIVE 2 (indicating the spare has replaced #2), and SPARE FMS ACTIVE 1 (indicating the spare has replaced #1). The last two signals are activated by the FMS selector switch. The interface is shown in Figure G-2.

1.5 Data Loader Interface

The data loader permits the loading of the spare FMS through its AUX position and, as such, requires no switching. The data loader interconnect shown in Figure G-3.

1.6 Performance Management Computer Interface

Each Performance Management Computer (PMC) is paired operationally with one FMS. Figure G-4 shows the switching required when the spare is activated.

1.7 Interconnect Information

Providing the replacement capability requires that a large number of wires be switched. These can be grouped into the following general categories:

ASCB: The warm spare is configured as FMS #2 for ASCB purposes. When it is selected to replace FMS #1 its ASCB inputs must be switched. Refer to Figure G-5 for ASCB switching.

Radios: The warm spare is configured to use left side radios as its primary inputs and the right side radios as its secondary inputs. These inputs must be switched when the spare replaces FMS #2. Radio tuning control from the spare must be activated when the spare replaces FMS #1 or #2. Refer to Figure G-6 for radio switching.

Input/Output Discretes: Any input discrete which is side-dependent must be switched when the spare replaces either FMS #1 or FMS #2. The SDI and LTS configuration discretes are two such examples. Any LTS common to both FMS #1 and FMS #2 may be similarly configured for the spare and does not require switching (e.g. if the same VLF/Omega is connected to FMS #1 and FMS #2, the spare should be configured for VLF/Omega and connected to that same source, with no switching required). Refer to Figure G-7 for discrete switching.

Interconnect Information
Table 501 (cont)

Long Term Sensor Inputs: Any long term sensor input (i.e. IRS, VLF/Omega, etc.) which is side-dependent must be switched when the spare replaces either FMS #1 or FMS #2. Any sensor which is common to FMS #1 and FMS #2 may be wired directly to the spare and does not require switching. Refer to Figure G-8 for long term sensor switching.

Power: Power is to be removed from either FMS #1 or FMS #2 after it has been replaced. Refer to Figure G-9 for power switching.

Interconnect data for the entire spare FMS installation follows. Complete information is provided for the spare Navigation Computer and its CDU as well as modifications required for the baseline G-IV components.

CDU No. 1

IOB P	Function		Connector Pin	Connects To
(P)	+28 VDC POWER		120J1-B (20)	Figure G-9
(B)	RS422 XMTR -	(H)	-Y (22)	Figure G-4
(B)	PERF COMP (DATA)	(L)	-Z (22)	Figure G-4
			SHIELD GND	
(B)	RS422 XMTR -	(H)	-a (22)	Figure G-4
(B)	PERF COMP (CNTL)	(L)	-b (22)	Figure G-4
			SHIELD GND	
(B)	RS422 RCVR -	(H)	-c (22)	Figure G-4
(B)	PERF COMP (DATA)	(L)	-d (22)	Figure G-4
(B)	RS422 RCVR -	(H)	-e (22)	Figure G-4
(B)	PERF COMP (CNTL)	(L)	-f (22)	Figure G-4
(B)	RS422 RCVR -	(H)	-g (22)	Figure G-4
(B)	PERF COMP (CLK)	(L)	120J1-h (22)	Figure G-4

CDU No. 2

IOB P	Function		Connector Pin	Connects To
(P)	+28 VDC POWER		C120J1-B (20)	Figure G-9
(B)	RS422 XMTR -	(H)	-Y (22)	Figure G-4
(B)	PERF COMP (DATA)	(L)	-Z (22)	Figure G-4
			SHIELD GND	
(B)	RS422 XMTR -	(H)	-a (22)	Figure G-4
(B)	PERF COMP (CNTL)	(L)	-b (22)	Figure G-4
			SHIELD GND	
(B)	RS422 RCVR -	(H)	-c (22)	Figure G-4
(B)	PERF COMP (DATA)	(L)	-d (22)	Figure G-4
(B)	RS422 RCVR -	(H)	-e (22)	Figure G-4
(B)	PERF COMP (CNTL)	(L)	-f (22)	Figure G-4
(B)	RS422 RCVR -	(H)	-g (22)	Figure G-4
(B)	PERF COMP (CLK)	(L)	C120J1-h (22)	Figure G-4

Interconnect Information
Table 501 (cont)

Spare CDU

IOB P	Function		Connector Pin	Connects To
	SPARE		E120J1-A	
(P)	+28 VDC POWER		-B (20)	A/C 28VDC PWR
(P)	POWER RETURN		-C (20)	A/C 28VDC RETURN
(I)	PANEL LIGHTING RETURN		-D (22)	A/C LTG RETURN
	SPARE		-E	
(P)	28 VDC ANNUNCIATOR LTG		-F (20)	A/C 28VDC LTG PWR
(P)	CHASSIS GND		-G (20)	A/C CHASSIS GND
(P)	ANNUNCIATOR LTG RETURN		-H (20)	A/C LTG RETURN
(P)	5V KEYBOARD PANEL LTG		-J (22)	A/C 5V LTG PWR
	RESERVED		-K	
	SPARE		-L	
(B)	RS422 XMTR -	(H)	-M (22)	E121J1A-55
(B)	NAV COMP (DATA)	(L)	-N (22)	E121J1A-56
			SHIELD GND	
(B)	RS422 XMTR -	(H)	-P (22)	E121J1B-7
(B)	NAV COMP (CNTL)	(L)	-R (22)	E121J1B-8
			SHIELD GND	
(B)	RS422 RCVR -	(H)	-S (22)	E121J1A-65
(B)	NAV COMP (DATA)	(L)	-T (22)	E121J1A-66
(B)	RS422 RCVR -	(H)	-U (22)	E121J1B-32
(B)	NAV COMP (CNTL)	(L)	-V (22)	E121J1B-33
(B)	RS422 RCVR -	(H)	-W (22)	E121J1B-35
(B)	NAV COMP (CLK)	(L)	-X (22)	E121J1B-36
(B)	RS422 XMTR -	(H)	-Y	FIGURE G-4
(B)	PERF COMP (DATA)	(L)	-Z	FIGURE G-4
			SHIELD GND	
(B)	RS422 XMTR -	(H)	-a	FIGURE G-4
(B)	PERF COMP (CNTL)	(L)	-b	FIGURE G-4
			SHIELD GND	
(B)	RS422 RCVR -	(H)	-c	FIGURE G-4
(B)	PERF COMP (DATA)	(L)	-d	FIGURE G-4
(B)	RS422 RCVR -	(H)	-e	FIGURE G-4
(B)	PERF COMP (CNTL)	(L)	-f	FIGURE G-4
(B)	RS422 RCVR -	(H)	-g	FIGURE G-4
(B)	PERF COMP (CLK)	(L)	-h	FIGURE G-4
(O)	CDU VALID (GND/OPEN)		-i	E121J1B-100, 134J1A-77, C134J1A-77
	SPARE		-j	
	SPARE		E120J1-k	

Interconnect Information
Table 501 (cont)

Spare CDU

IOB P	Function	Connector Pin	Connects To
(O)	R PHOTO SENSOR OUT	E120J1-m ------NC	
(O)	L PHOTO SENSOR OUT	-n ------NC	
	SPARE	-p	
(I)	DIM CALIBRATION	-q ------NC	
	SPARE	-r	
(I)	LAMP TEST *	-s (22)---------------------	A/C LAMP TEST
	SPARE	-t	
	SPARE	-u	
(I)	ANNUN LIGHTING BRIGHT/DIM (OPEN/28V)	-v (22)---------------------	A/C WIRING
(I)	ANNUN LIGHTING DIM CONTROL (0-28V)	-w (22)---------------------	A/C WIRING
	SPARE	-x	
	SPARE	-y	
	SPARE	-z	
	SPARE	-AA	
	SPARE	-BB	
	SPARE	-CC	
	SPARE	-DD	
(I)	SELF TEST ENABLE *	-EE ------NC	
	SPARE	-FF	
	SPARE	-GG	
	SPARE	E120J1-HH	

Interconnect Information
Table 501 (cont)

Navigation Computer No. 1

IOB P	Function		Connector Pin	Connects To
(P)	+28VDC POWER		121J1A-3 (20)	FIGURE G-9
(B)	ARINC 429 RCVR -	(H)	-16 (22)	FIGURE G-6
(B)	MLS/ILS PRI	(L)	-17 (22)	FIGURE G-6
(B)	ARINC 429 RCVR -	(H)	-18 (22)	FIGURE G-6
(B)	DME PRI	(L)	-19 (22)	FIGURE G-6
(B)	ARINC 429 RCVR -	(H)	-23 (22)	FIGURE G-8
(B)	LTS #2	(L)	-24 (22)	FIGURE G-8
(B)	ARINC 429 RCVR -	(H)	-26 (22)	FIGURE G-8
(B)	LTS #1	(L)	-27 (22)	FIGURE G-8
(B)	RS422 RCVR -	(H)	-28 (22)	123J1-T, C121J1A-28, E121J1A-28
(B)	DATA LOADER (DATA)	(L)	-29 (22)	123J1-S, C121J1A-29, E121J1A-29
(B)	ARINC 429 RCVR -	(H)	-32 (22)	FIGURE G-6
(B)	NAV PRIMARY	(L)	-33 (22)	FIGURE G-6
(B)	ARINC 429 RCVR -	(H)	-43 (22)	FIGURE G-6
(B)	NAV SECONDARY	(L)	-44 (22)	FIGURE G-6
(B)	ARINC 429 XMTR -	(H)	-45 (22)	FIGURE G-6
(B)	GEN BUS SEC	(L)	-46 (22)	FIGURE G-6
			SHIELD GND	
(I)	HIGH/LOW* SPEED BUS-LTS #1		-47 (22)	AS REQUIRED
(I)	HIGH/LOW* SPEED BUS-LTS #2		-48 (22)	AS REQUIRED
(I)	HIGH/LOW* SPEED BUS-LTS #3		-49 (22)	AS REQUIRED
(B)	ARINC 429 XMTR -	(H)	-50 (22)	FIGURE G-6
(B)	GEN BUS PRI	(L)	-51 (22)	FIGURE G-6
			SHIELD GND	
(B)	RS422 XMTR -	(H)	-52 (22)	123J1-H, C121J1A-52, E121J1A-52
(B)	DATA LOADER (DATA)	(L)	121J1A-53 (22)	123J1-G, C121J1A-53, E121J1A-53
			SHIELD GND	

Interconnect Information
Table 501 (cont)

Navigation Computer No. 1

IOB P	Function	Connector Pin	Connects To
(O)	TAG SYNC	121J1B-9 (22)	FIGURE G-7
(O)	CDU SYNC	-16 (22)	FIGURE G-7
(B)	RS422 XMTR - (H)	-20 (22)	123J1-K, C121J1B-20, E121J1B-20
(B)	DATA LOADER (CLK) (L)	-21 (22)	123J1-J, C121J1B-21, E121J1B-21
		SHIELD GND	
(B)	ARINC 429 RCVR - (H)	-22 (22)	FIGURE G-6
(B)	DME SECONDARY (L)	-23 (22)	FIGURE G-6
(I)	TAG SYNC	-34 (22)	FIGURE G-7
(O)	ONSIDE TUNING CNTL (AUTOTUNE) (GND/OPEN)	-38 (22)	FIGURE G-6
(I)	CDU SYNC	-48 (22)	FIGURE G-7
(O)	CROSS-SIDE TUNING CONTROL (AUTOTUNE) (GND/OPEN)	-54 (22)	FIGURE G-6
(B)	ARINC 429 RCVR - (H)	-57 (22)	FIGURE G-8
(B)	LTS #3 (L)	-58 (22)	FIGURE G-8
(I)	LTS #1 NUMBER BIT #1	-59 (22)	FIGURE G-7
(I)	LTS #1 NUMBER BIT #2	-60 (22)	FIGURE G-7
(I)	LTS #2 NUMBER BIT #1	-61 (22)	FIGURE G-7
(I)	LTS #2 NUMBER BIT #2	-62 (22)	FIGURE G-7
(I)	LTS #3 NUMBER BIT #1	-63 (22)	FIGURE G-7
(I)	LTS #3 NUMBER BIT #2	-64 (22)	FIGURE G-7
(I)	PERF COMP INSTALLED *	-73 (22)	SIGNAL GND
(I)	LTS #1 CONFIGURATION	-74 (22)	FIGURE G-7
(I)	LTS #1 CONFIGURATION	-75 (22)	FIGURE G-7
(I)	LTS #1 CONFIGURATION	-76 (22)	FIGURE G-7
(I)	LTS #2 CONFIGURATION	-77 (22)	FIGURE G-7
(I)	LTS #2 CONFIGURATION	-78 (22)	FIGURE G-7
(I)	LTS #2 CONFIGURATION	-79 (22)	FIGURE G-7
(I)	MAINT TEST ENABLE *	-87 (22)	E121J1B-87, APPX D
(I)	ILS*/MLS SELECT	-88 (22)	FIGURE G-6
(I)	LTS #3 CONFIGURATION	-89 (22)	FIGURE G-7
(I)	LTS #3 CONFIGURATION	-90 (22)	FIGURE G-7
(I)	LTS #3 CONFIGURATION	-91 (22)	FIGURE G-7
(I)	NAV/DME MANUAL * TUNE SEC	-105 (22)	FIGURE G-6
(I)	NAV/DME MANUAL * TUNE PRI	121J1B-106 (22)	FIGURE G-6

Interconnect Information
Table 501 (cont)

Navigation Computer No. 2

IOB P	Function	Connector Pin	Connects To
(P)	+28VDC POWER	C121J1A-3 (20)	FIGURE G-9
(B)	ARINC 429 RCVR -	(H) -16 (22)	FIGURE G-6
(B)	MLS/ILS PRI	(L) -17 (22)	FIGURE G-6
(B)	ARINC 429 RCVR -	(H) -18 (22)	FIGURE G-6
(B)	DME PRI	(L) -19 (22)	FIGURE G-6
(B)	ARINC 429 RCVR -	(H) -23 (22)	FIGURE G-8
(B)	LTS #2	(L) -24 (22)	FIGURE G-8
(B)	ARINC 429 RCVR -	(H) -26 (22)	FIGURE G-8
(B)	LTS #1	(L) -27 (22)	FIGURE G-8
(B)	RS422 RCVR -	(H) -28 (22)	123J1-T, 121J1A-28, E121J1A-28
(B)	DATA LOADER (DATA)	(L) -29 (22)	123J1-S, 121J1A-29, E121J1A-29
(B)	ARINC 429 RCVR -	(H) -32 (22)	FIGURE G-6
(B)	NAV PRIMARY	(L) -33 (22)	FIGURE G-6
(B)	ARINC 429 RCVR -	(H) -43 (22)	FIGURE G-6
(B)	NAV SECONDARY	(L) -44 (22)	FIGURE G-6
(B)	ARINC 429 XMTR -	(H) -45 (22)	FIGURE G-6
(B)	GEN BUS SEC	(L) -46 (22)	FIGURE G-6
		SHIELD GND	
(I)	HIGH/LOW* SPEED BUS-LTS #1	-47 (22)	AS REQUIRED
(I)	HIGH/LOW* SPEED BUS-LTS #2	-48 (22)	AS REQUIRED
(I)	HIGH/LOW* SPEED BUS-LTS #3	-49 (22)	AS REQUIRED
(B)	ARINC 429 XMTR -	(H) -50 (22)	FIGURE G-6
(B)	GEN BUS PRI	(L) -51 (22)	FIGURE G-6
		SHIELD GND	
(B)	RS422 XMTR -	(H) -52 (22)	123J1-H, 121J1A-52, E121J1A-52
(B)	DATA LOADER (DATA)	(L) C121J1A-53 (22)	123J1-G, 121J1A-53, E121J1A-53
		SHIELD GND	

Interconnect Information
Table 501 (cont)

Navigation Computer No. 2

IOB P	Function	Connector Pin	Connects To
(O)	TAG SYNC	C121J1B-9 (22)	FIGURE G-7
(O)	CDU SYNC	-16 (22)	FIGURE G-7
(B)	RS422 XMTR - (H)	-20 (22)	123J1-K, 121J1B-20, E121J1B-20
(B)	DATA LOADER (CLK) (L)	-21 (22)	123J1-J, 121J1B-21, E121J1B-21
		SHIELD GND	
(B)	ARINC 429 RCVR - (H)	-22 (22)	FIGURE G-6
(B)	DME SECONDARY (L)	-23 (22)	FIGURE G-6
(I)	TAG SYNC	-34 (22)	FIGURE G-7
(O)	ONSIDE TUNING CNTL (AUTOTUNE) (GND/OPEN)	-38 (22)	FIGURE G-6
(I)	CDU SYNC	-48 (22)	FIGURE G-7
(O)	CROSS-SIDE TUNING CONTROL (AUTOTUNE) (GND/OPEN)	-54 (22)	FIGURE G-6
(B)	ARINC 429 RCVR - (H)	-57 (22)	FIGURE G-8
(B)	LTS #3 (L)	-58 (22)	FIGURE G-8
(I)	LTS #1 NUMBER BIT #1	-59 (22)	FIGURE G-7
(I)	LTS #1 NUMBER BIT #2	-60 (22)	FIGURE G-7
(I)	LTS #2 NUMBER BIT #1	-61 (22)	FIGURE G-7
(I)	LTS #2 NUMBER BIT #2	-62 (22)	FIGURE G-7
(I)	LTS #3 NUMBER BIT #1	-63 (22)	FIGURE G-7
(I)	LTS #3 NUMBER BIT #2	-64 (22)	FIGURE G-7
(I)	PERF COMP INSTALLED *	-73 (22)	SIGNAL GND
(I)	LTS #1 CONFIGURATION	-74 (22)	FIGURE G-7
(I)	LTS #1 CONFIGURATION	-75 (22)	FIGURE G-7
(I)	LTS #1 CONFIGURATION	-76 (22)	FIGURE G-7
(I)	LTS #2 CONFIGURATION	-77 (22)	FIGURE G-7
(I)	LTS #2 CONFIGURATION	-78 (22)	FIGURE G-7
(I)	LTS #2 CONFIGURATION	-79 (22)	FIGURE G-7
(I)	ILS*/MLS SELECT	-88 (22)	FIGURE G-6
(I)	LTS #3 CONFIGURATION	-89 (22)	FIGURE G-7
(I)	LTS #3 CONFIGURATION	-90 (22)	FIGURE G-7
(I)	LTS #3 CONFIGURATION	-91 (22)	FIGURE G-7
(I)	NAV/DME MANUAL * TUNE SEC	-105 (22)	FIGURE G-6
(I)	NAV/DME MANUAL * TUNE PRI	C121J1B-106 (22)	FIGURE G-6

Interconnect Information
Table 501 (cont)

Spare Navigation Computer

IOB P	Function		Connector Pin	Connects To
(P)	AIRCRAFT BATT +28V		E121J1A-1 (20)	A/C 28VDC BATTERY DIRECT
	SPARE		-2	
(P)	+28VDC POWER		-3 (20)	A/C 28VDC PWR
(P)	POWER RETURN		-4 (20)	A/C 28VDC RETURN
(P)	CHASSIS GROUND		-5 (20)	A/C CHASSIS GND
(P)	SIGNAL GROUND		-6 (20)	A/C SIGNAL GND
(P)	A/C BATTERY RETURN		-7 (20)	A/C BATTERY RET
	RESERVED		-8	
	RESERVED		-9	
(B)	SYS ASCB PRI BUS	(H)	-10 (22)	FIGURE G-5
(B)	SYS ASCB PRI BUS	(L)	-11 (22)	FIGURE G-5
	RESERVED		-12	
	RESERVED		-13	
(I)	NO CLOCK ASCB *		-14 (22)	SIGNAL GND
	SPARE		-15	
(B)	ARINC 429 RCVR -	(H)	-16 (22)	FIGURE G-6
(B)	MLS/ILS PRI	(L)	-17 (22)	FIGURE G-6
(B)	ARINC 429 RCVR -	(H)	-18 (22)	FIGURE G-6
(B)	DME PRI	(L)	-19 (22)	FIGURE G-6
	RESERVED		-20	
	RESERVED		-21	
	RESERVED		-22	
(B)	ARINC 429 RCVR -	(H)	-23 (22)	FIGURE G-8
(B)	LTS #2	(L)	-24 (22)	FIGURE G-8
	RESERVED		-25	
(B)	ARINC 429 RCVR -	(H)	-26 (22)	FIGURE G-8
(B)	LTS #1	(L)	-27 (22)	FIGURE G-8
(B)	RS422 RCVR -	(H)	-28 (22)	123J1-T, 121J1A-28, C121J1A-28
(B)	DATA LOADER (DATA)	(L)	-29 (22)	123J1-S, 121J1A-29, C121J1A-29
	RESERVED		-30	
	RESERVED		-31	
(B)	ARINC 429 RCVR -	(H)	-32 (22)	FIGURE G-6
(B)	NAV PRIMARY	(L)	-33 (22)	FIGURE G-6
	RESERVED		E121J1A-34	

Interconnect Information
Table 501 (cont)

Spare Navigation Computer

IOB P	Function		Connector Pin	Connects To
(B)	RESERVED		E121J1A-35 (22)	DMUJ1-26 APPX D
(B)	RESERVED		-36 (22)	DMUJ1-27
	RESERVED		-37	
	RESERVED		-38	
	RESERVED		-39	
	RESERVED		-40	
	RESERVED		-41	
	RESERVED		-42	
(B)	ARINC 429 RCVR -	(H)	-43 (22)	FIGURE G-6
(B)	NAV SECONDARY	(L)	-44 (22)	FIGURE G-6
(B)	ARINC 429 XMTR -	(H)	-45 (22)	FIGURE G-6
(B)	GEN BUS SEC	(L)	-46 (22)	FIGURE G-6
			SHIELD GND	
(I)	HIGH/LOW* SPEED BUS-LTS #1		-47 (22)	AS REQUIRED
(I)	HIGH/LOW* SPEED BUS-LTS #2		-48 (22)	AS REQUIRED
(I)	HIGH/LOW* SPEED BUS-LTS #3		-49 (22)	AS REQUIRED
(B)	ARINC 429 XMTR -	(H)	-50 (22)	FIGURE G-6
(B)	GEN BUS PRI	(L)	-51 (22)	FIGURE G-6
			SHIELD GND	DMUJ1-28 APPX D
				DMUJ1-29
(B)	RS422 XMTR -	(H)	-52 (22)	123J1-H, 121J1A-52, C121J1A-52
(B)	DATA LOADER (DATA)	(L)	-53 (22)	123J1-G, 121J1A-53, C121J1A-53
			SHIELD GND	
	SPARE		-54	
(B)	RS422 RCVR -	(H)	-55 (22)	E120J1-M
(B)	CDU (DATA)	(L)	-56 (22)	E120J1-N
	SPARE		-57	
(B)	RS422 RCVR -	(H)	-58	NC
(B)		(L)	-59	NC
	RESERVED		-60	
	RESERVED		-61	
(B)	RS422 XMTR -	(H)	-62	NC
(B)		(L)	-63	NC
	RESERVED		-64	
(B)	RS422 XMTR -	(H)	-65 (22)	E120J1-S
(B)	CDU (DATA)	(L)	-66 (22)	E120J1-T
			SHIELD GND	
	RESERVED		E121J1A-67	

Interconnect Information
Table 501 (cont)

Spare Navigation Computer

IOB P	Function		Connector Pin	Connects To
	RESERVED		E121J1B-1	
	RESERVED		-2	
	SPARE		-3	
	RESERVED		-4	
	RESERVED		-5	
	SPARE		-6	
(B)	RS422 RCVR -	(H)	-7 (22)	E120J1-P
(B)	CDU (CNTL)	(L)	-8 (22)	E120J1-R
(O)	TAG SYNC		-9 (22)	FIGURE G-7
(B)	RS232 RCVR (C)		-10 ------NC	
(B)	RETURN (C)		-11 ------NC	
(B)	RS232 XMTR (C)		-12 ------NC	
(B)	RS232 RCVR (A)		-13 ------NC	
(B)	RETURN (A)		-14 ------NC	
(B)	RS232 XMTR (A)		-15 ------NC	
(O)	CDU SYNC		-16 (22)	FIGURE G-7
(B)	RS232 RCVR (B)		-17 ------NC	
(B)	RETURN (B)		-18 ------NC	
(B)	RS232 XMTR (B)		-19 ------NC	
(B)	RS422 XMTR -	(H)	-20 (22)	123J1-K, 121J1B-20, C121J1B-20
(B)	DATA LOADER (CLK)	(L)	-21 (22)	123J1-J, 121J1B-21, C121J1B-21
			SHIELD GND	
(B)	ARINC 429 RCVR -	(H)	-22 (22)	FIGURE G-6
(B)	DME SECONDARY	(L)	-23 (22)	FIGURE G-6
	RESERVED		-24	
	RESERVED		-25	
	RESERVED		-26	
	RESERVED		-27	
(B)	SYS ASCB SEC BUS	(H)	-28 (22)	FIGURE G-5
	RESERVED		-29	
	RESERVED		-30	
(B)	SYS ASCB SEC BUS	(L)	-31 (22)	FIGURE G-5
(B)	RS422 XMTR -	(H)	-32 (22)	E120J1-U
(B)	CDU (CNTL)	(L)	-33 (22)	E120J1-V
			SHIELD GND	
(I)	TAG SYNC		-34 (22)	FIGURE G-7
(B)	RS422 XMTR -	(H)	-35 (22)	E120J1-W
(B)	CDU (CLK)	(L)	E121J1B-36 (22)	E120J1-X
			SHIELD GND	

Interconnect Information
Table 501 (cont)

Spare Navigation Computer

IOB P	Function	Connector Pin		Connects To
(O)	TRUE/MAG SELECT (GND/OPEN)	E121J1B-37	------NC	
(O)	ONSIDE TUNING CNTL (AUTOTUNE) (GND/OPEN)	-38	(22)--------------------	FIGURE G-6
(O)	REMOTE TUNING CNTL (GND/OPEN)	-39	------NC	
(O)	LAT WPT ALERT (GND/OPEN)	-40	------NC	
(O)	VERT WPT ALERT (GND/OPEN)	-41	------NC	
(O)	DEAD RECKONING (GND/OPEN)	-42	------NC	
(O)	OFFSET ALERT (GND/OPEN)	-43	------NC	
(O)	APPR SENSITIVITY (GND/OPEN)	-44	------NC	
(O)	INDEP OP (GND/OPEN)	-45	------NC	
(O)	CDU MSG (GND/OPEN)	-46	------NC	
(O)	DGRD ACCURACY (GND/OPEN)	-47	------NC	
(I)	CDU SYNC	-48	(22)--------------------	FIGURE G-7
(O)	NAV COMP VALID (GND/OPEN)	-49	(22)--------------------	134J1A-87, C134J1A-87
	SPARE	-50		
	SPARE	-51		
	RESERVED	-52		
(O)	VERTICAL TRACK AURAL ALERT (GND/OPEN)	-53	------NC	
(O)	CROSS-SIDE TUNING CONTROL (AUTOTUNE) (GND/OPEN)	-54	(22)--------------------	FIGURE G-6
	RESERVED	-55		
	RESERVED	-56		
(B)	ARINC 429 RCVR - (H)	-57	(22)--------------------	FIGURE G-8
(B)	LTS #3 (L)	-58	(22)--------------------	FIGURE G-8
(I)	LTS #1 NUMBER BIT #1	-59	(22)--------------------	FIGURE G-7
(I)	LTS #1 NUMBER BIT #2	-60	(22)--------------------	FIGURE G-7
(I)	LTS #2 NUMBER BIT #1	-61	(22)--------------------	FIGURE G-7
(I)	LTS #2 NUMBER BIT #2	-62	(22)--------------------	FIGURE G-7
(I)	LTS #3 NUMBER BIT #1	-63	(22)--------------------	FIGURE G-7
(I)	LTS #3 NUMBER BIT #2	-64	(22)--------------------	FIGURE G-7
(I)	SDI #3	-65	(22)--------------------	FIGURE G-7
(I)	CROSSFILL ENABLE *	-66	------NC	
(I)	VERSION B ASCB *	-67	(22)--------------------	SIGNAL GND
	RESERVED	-68		
	RESERVED	-69		
	RESERVED	-70		
(I)	OPERATIONAL MODE ID 0	-71	(22)--------------------	SIGNAL GND
(I)	WOW *	-72	(22)--------------------	A/C WOW SWITCH
(I)	PERF COMP INSTALLED *	E121J1B-73	(22)--------------------	SIGNAL GND

Interconnect Information
Table 501 (cont)

Spare Navigation Computer

IOB P	Function	Connector Pin	Connects To
(I)	LTS #1 CONFIGURATION	E121J1B-74 (22)--------------------	FIGURE G-7
(I)	LTS #1 CONFIGURATION	-75 (22)--------------------	FIGURE G-7
(I)	LTS #1 CONFIGURATION	-76 (22)--------------------	FIGURE G-7
(I)	LTS #2 CONFIGURATION	-77 (22)--------------------	FIGURE G-7
(I)	LTS #2 CONFIGURATION	-78 (22)--------------------	FIGURE G-7
(I)	LTS #2 CONFIGURATION	-79 (22)--------------------	FIGURE G-7
	RESERVED	-80	
	RESERVED	-81	
	RESERVED	-82	
(I)	DL CONNECTED *	-83 (22)--------------------	123J1-F
(I)	RADIO CONFIG ID 0	-84 (22)--------------------	SIGNAL GND
(I)	RADIO CONFIG ID 1	-85 ------NC	
(I)	RADIO CONFIG ID 2	-86 ------NC	
(I)	MAINT TEST ENABLE *	-87 (22)--------------------	121J1B-87
(I)	ILS*/MLS SELECT	-88 (22)--------------------	FIGURE G-6
(I)	LTS #3 CONFIGURATION	-89 (22)--------------------	FIGURE G-7
(I)	LTS #3 CONFIGURATION	-90 (22)--------------------	FIGURE G-7
(I)	LTS #3 CONFIGURATION	-91 (22)--------------------	FIGURE G-7
(I)	OPERATIONAL MODE ID 1	-92 (22)--------------------	FIGURE G-7
(I)	INITIATED XMIT *	-93 ------NC	
(I)	INITIATED REC *	-94 ------NC	
(I)	DME SCAN TYPE *	-95 (22)--------------------	SIGNAL GND
(I)	RADIO BUS TYPE (OPEN/GND)	-96 ------NC	
(I)	SINGLE ASCB *	-97 ------NC	
(I)	SDI #1	-98 (22)--------------------	FIGURE G-7
(I)	SDI #2	-99 (22)--------------------	FIGURE G-7
(I)	CDU VALID *	-100 (22)-------------------	E120J1-i
(I)	TRUE REF SELECTED *	-101 ------NC	
(I)	METRIC OPTION *	-102 ------NC	
(I)	OVERSPEED PROTECTION DIS *	-103 ------NC	
(I)	RS422 OFFSIDE VOR CONNECT *	-104 ------NC	
(I)	NAV/DME MANUAL * TUNE SEC	-105 (22)-------------------	FIGURE G-6
(I)	NAV/DME MANUAL * TUNE PRI	E121J1B-106 (22)-------------------	FIGURE G-6

Interconnect Information
Table 501 (cont)

Performance Computer No. 1

IOB P	Function	Connector Pin	Connects To
(B)	RS422 XMTR - (H)	122J1A-97 (22)	FIGURE G-4
(B)	CDU (CLK) (L)	-98 (22)	FIGURE G-4
		SHIELD GND	
(B)	RS422 XMTR - (H)	-99 (22)	FIGURE G-4
(B)	CDU (CNTL) (L)	-100 (22)	FIGURE G-4
		SHIELD GND	
(B)	RS422 XMTR - (H)	-101 (22)	FIGURE G-4
(B)	CDU (DATA) (L)	-102 (22)	FIGURE G-4
		SHIELD GND	
(B)	RS422 RCVR - (H)	-103 (22)	FIGURE G-4
(B)	CDU (DATA) (L)	-104 (22)	FIGURE G-4
(B)	RS422 RCVR - (H)	-105 (22)	FIGURE G-4
(B)	CDU (CNTL) (L)	122J1A-106 (22)	FIGURE G-4
(O)	PERF COMP INSTALLED	122J1B-106 (22)	FIGURE G-4

Interconnect Information
Table 501 (cont)

Performance Computer No. 2

IOB P	Function		Connector Pin	Connects To
(B)	RS422 XMTR -	(H)	C122J1A-97 (22)	FIGURE G-4
(B)	CDU (CLK)	(L)	-98 (22)	FIGURE G-4
			SHIELD GND	
(B)	RS422 XMTR -	(H)	-99 (22)	FIGURE G-4
(B)	CDU (CNTL)	(L)	-100 (22)	FIGURE G-4
			SHIELD GND	
(B)	RS422 XMTR -	(H)	-101 (22)	FIGURE G-4
(B)	CDU (DATA)	(L)	-102 (22)	FIGURE G-4
			SHIELD GND	
(B)	RS422 RCVR -	(H)	-103 (22)	FIGURE G-4
(B)	CDU (DATA)	(L)	-104 (22)	FIGURE G-4
(B)	RS422 RCVR -	(H)	-105 (22)	FIGURE G-4
(B)	CDU (CNTL)	(L)	C122J1A-106 (22)	FIGURE G-4
(O)	PERF COMP INSTALLED		C122J1B-106 (22)	FIGURE G-4

Interconnect Information
Table 501 (cont)

Data Loader

IOB P	Function		Connector Pin	Connects To
(O)	LOADER CONNECTED AUX		123J1-F (22)	E121J1B-83
(B)	RS422 RCVR -	(L)	-G (22)	121J1A-53, C121J1A-53, E121J1A-53
(B)	NAV COMP (DATA)	(H)	-H (22)	121J1A-52, C121J1A-52, E121J1A-52
(B)	RS422 RCVR -	(L)	-J (22)	121J1B-21, C121J1B-21, E121J1B-21
(B)	NAV COMP (CLK)	(H)	-K (22)	121J1B-20, C121J1B-20, E121J1B-20
(B)	RS422 XMTR -	(L)	-S (22)	121J1A-29, C121J1A-29, E121J1A-29
(B)	NAV COMP (DATA)	(H)	123J1-T (22)	121J1A-28, E121J1A-28
			SHIELD GND	

Interconnect Information
Table 501 (cont)

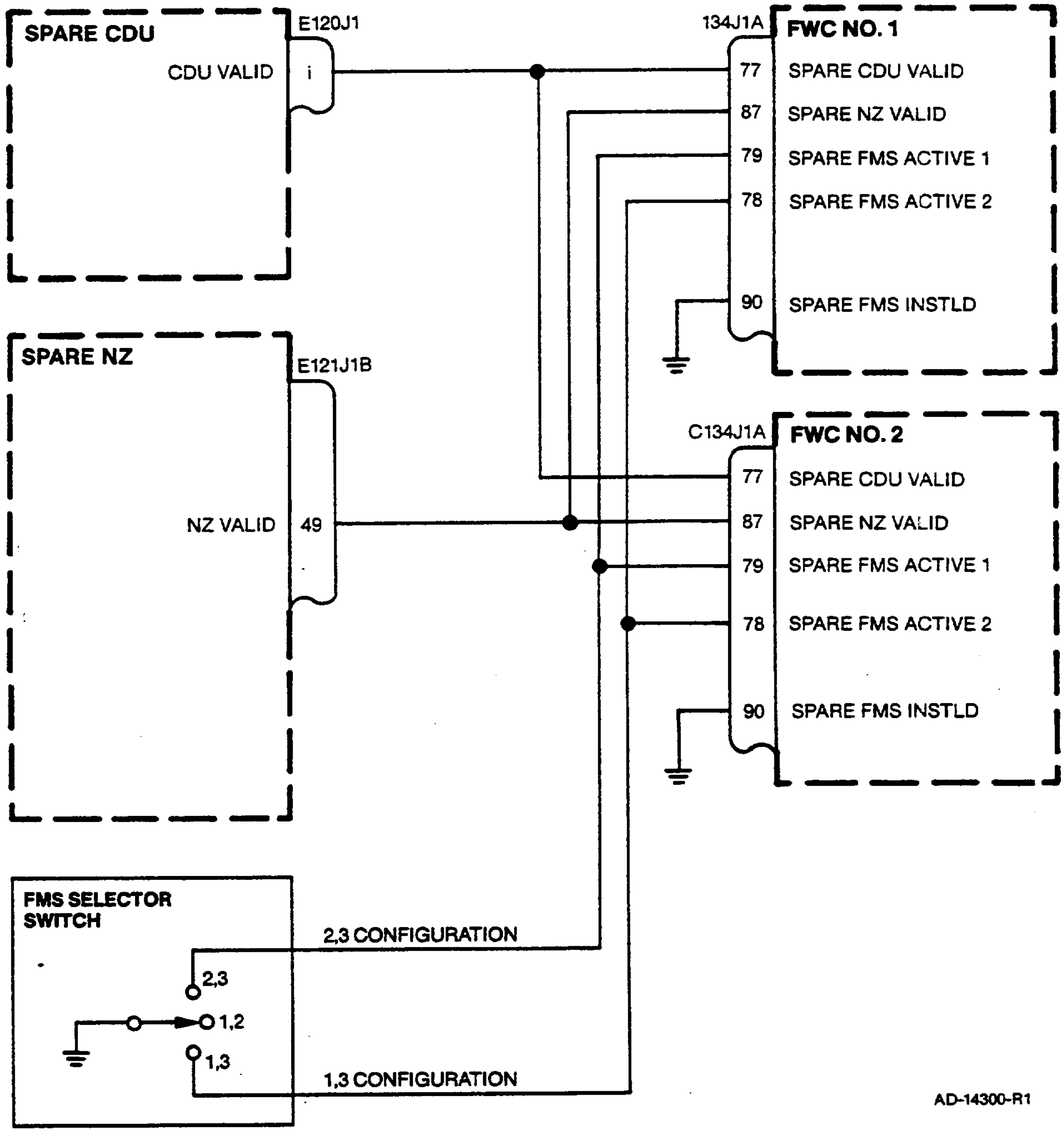
Fault Warning Computer No. 1

IOB P	Function	Connector Pin	Connects To
(I)	SPARE CDU VALID	134J1A-77 (22)--------------------	E120J1-i, E121J1B-100, C134J1A-77
(I)	SPARE FMS ACTIVE 2	-78 (22)--------------------	FIGURE G.2
(I)	SPARE FMS ACTIVE 1	-79 (22)--------------------	FIGURE G.2
(I)	SPARE NZ VALID	-87 (22)--------------------	E121J1B-49, C134J1A-87
(I)	SPARE FMS INSTALLED	134J1A-90 (22)--------------------	SIGNAL GND

Fault Warning Computer No. 2

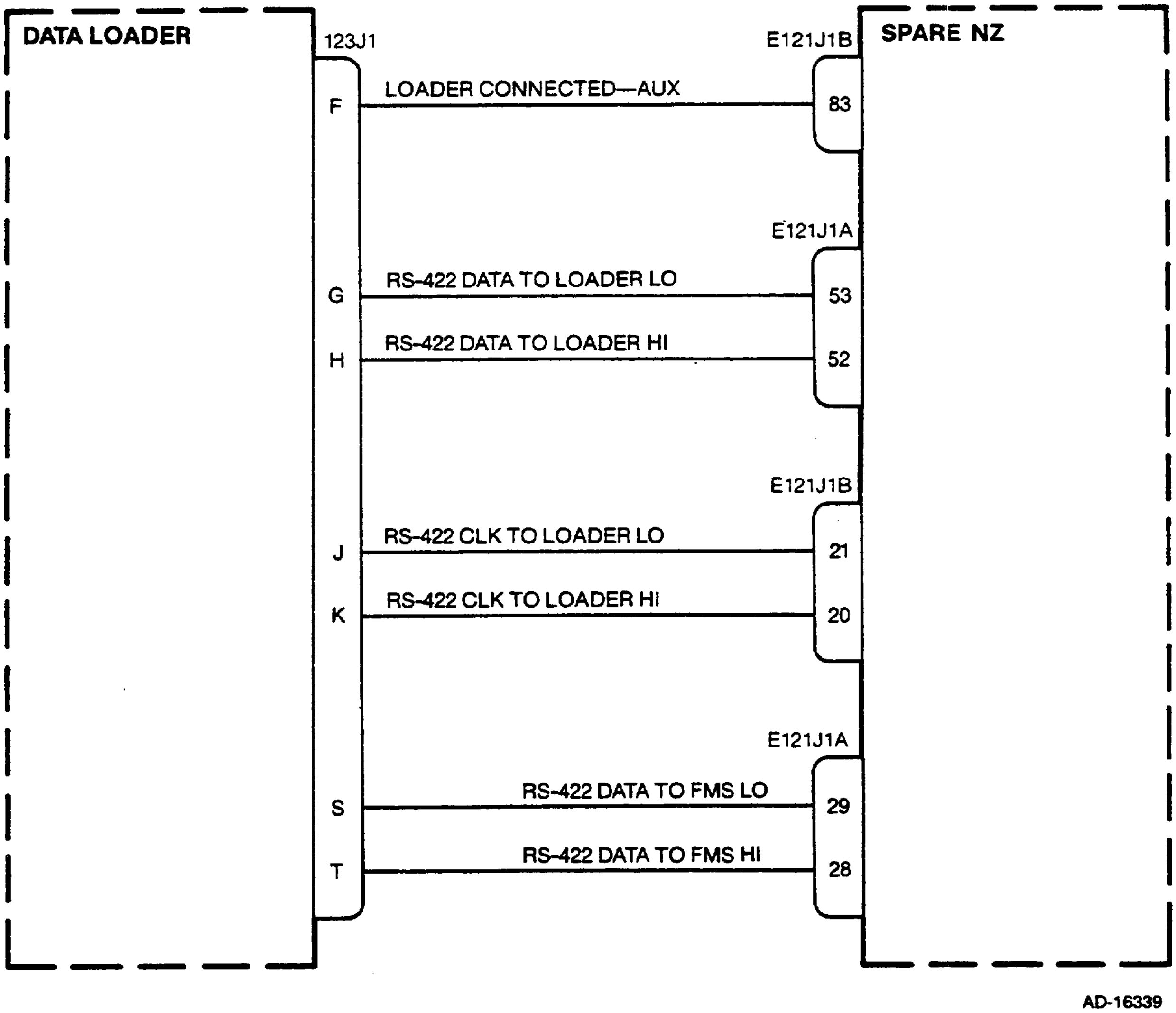
IOB P	Function	Connector Pin	Connects To
(I)	SPARE CDU VALID	C134J1A-77 (22)--------------------	E120J1-i, E121J1B-100, 134J1A-77
(I)	SPARE FMS ACTIVE 2	-78 (22)--------------------	FIGURE G.2
(I)	SPARE FMS ACTIVE 1	-79 (22)--------------------	FIGURE G.2
(I)	SPARE NZ VALID	-87 (22)--------------------	E121J1B-49, 134J1A-87
(I)	SPARE FMS INSTALLED	C134J1A-90 (22)--------------------	SIGNAL GND

Interconnect Information
Table 501 (cont)



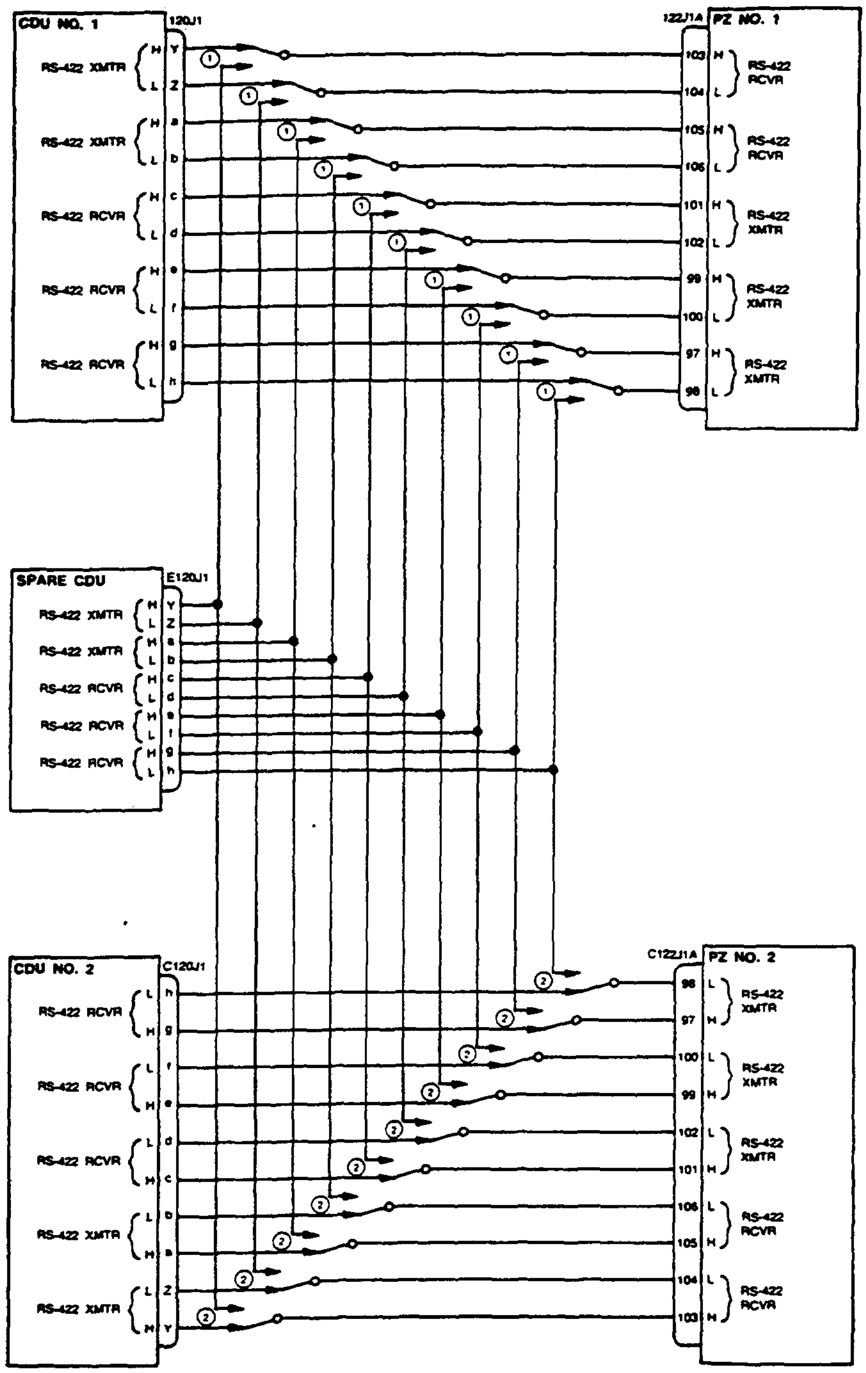
FWC Interface to Spare FMS
Figure G-2

Interconnect Information
Table 501 (cont)



Data Loader Interface to Spare FMS
Figure G-3

Interconnect Information
Table 501 (cont)



NOTES

1 SWITCHES SHOWN FOR FMS 1, 2 CONFIGURATION

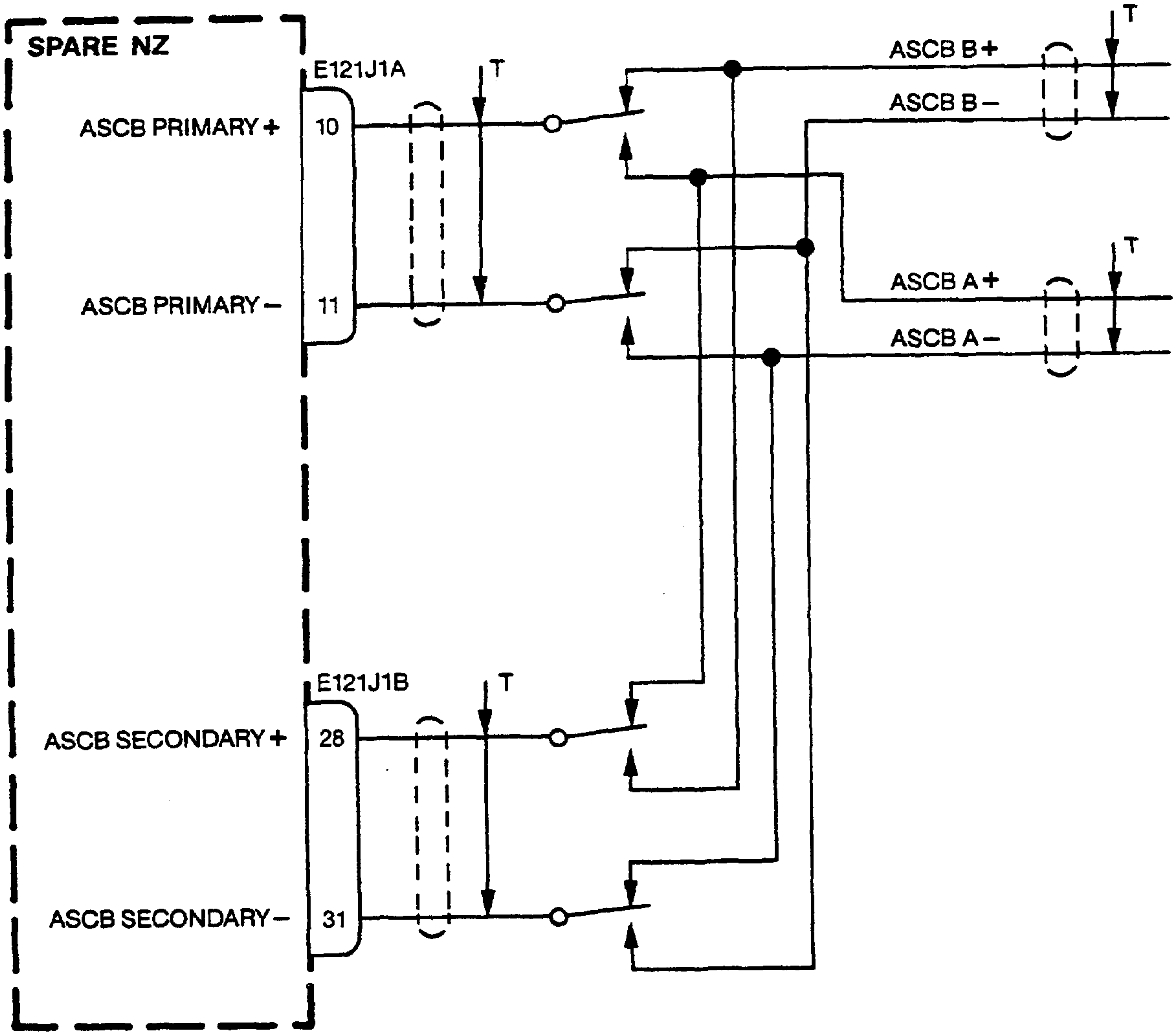
2 SWITCHES DEONTED BY 1 ARE ACTIVATED WHEN SELECTOR SWITCH PLACED IN 2, 3 POSITION (SPARE REPLACES FMS 1)

3. SWITCHES DENOTED BY 2 ARE ACTIVATED WHEN SELECTOR SWITCH PLACED IN 1, 3 POSITION (SPARE REPLACES FMS 2).

PMS Interface to Spare FMS
Figure G-4

AD-30495-R1

Interconnect Information
Table 501 (cont)



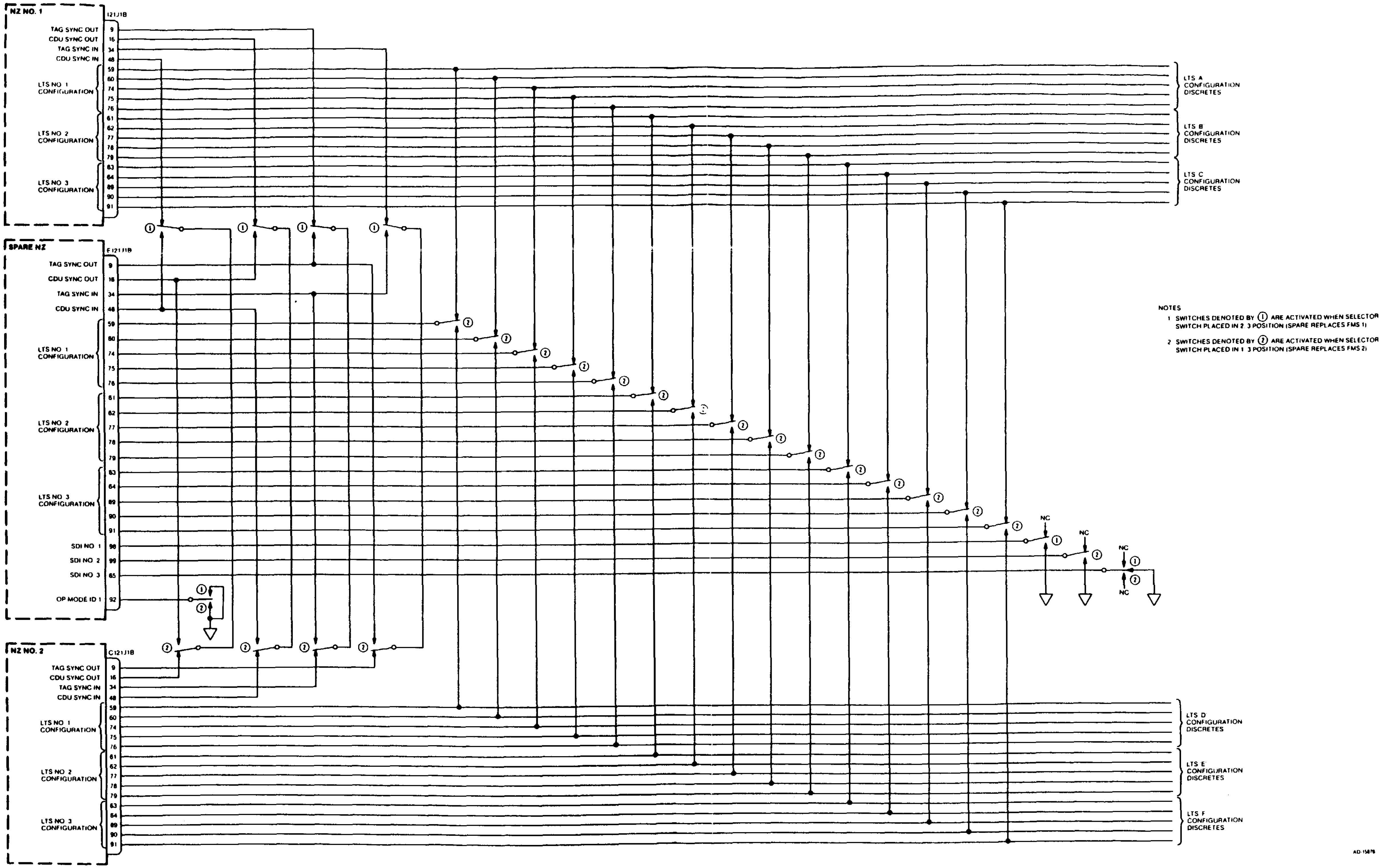
NOTES:

1. SWITCHES SHOWN FOR FMS 1, 2 CONFIGURATION.
2. ALL SWITCHES ACTIVATED WHEN SELECTOR PLACED IN 2, 3 POSITION (SPARE REPLACES FMS 1).

AD-14303-R1

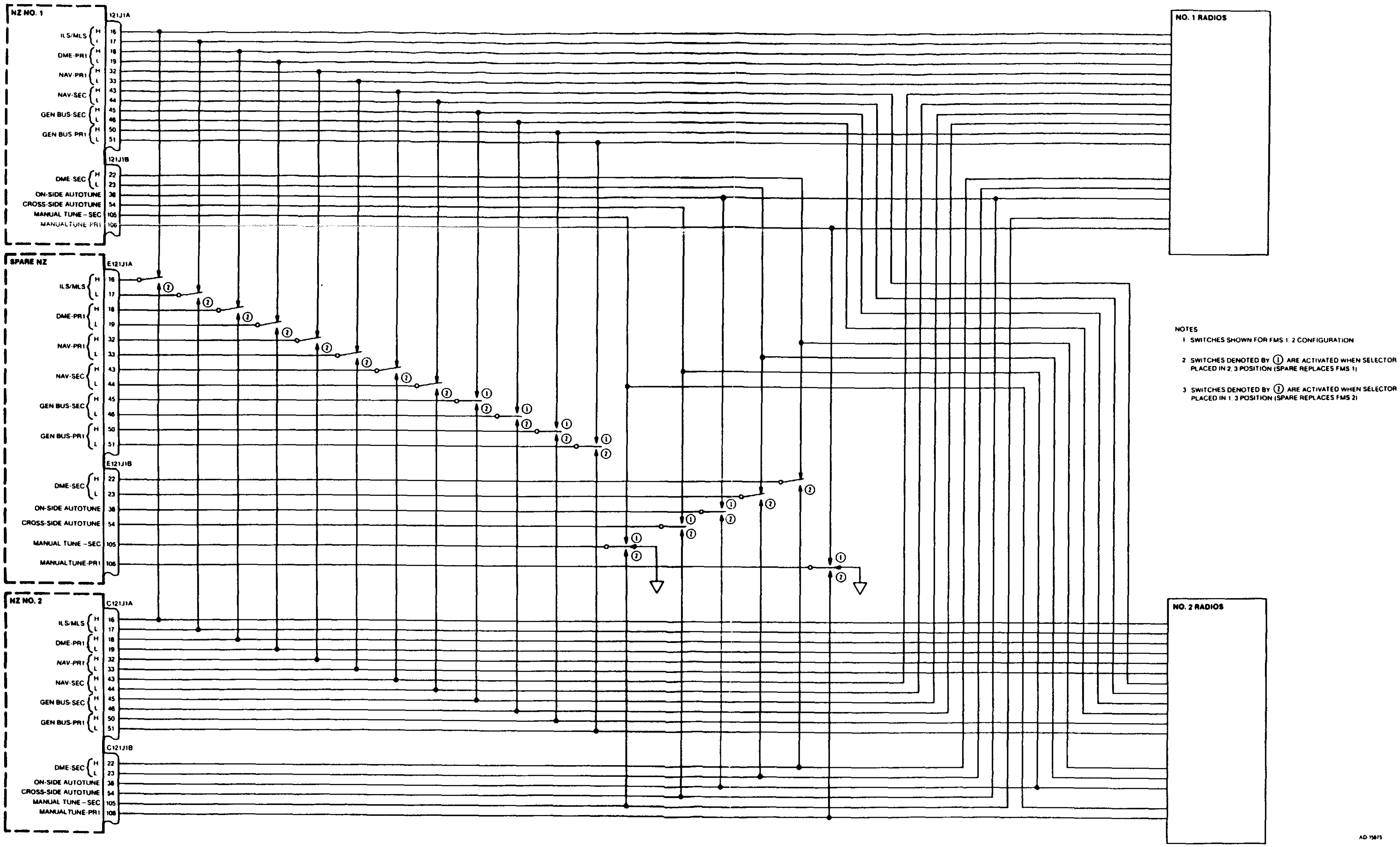
ASCB Interface to Spare FMS
Figure G-5

Interconnect Information
Table 501 (cont)



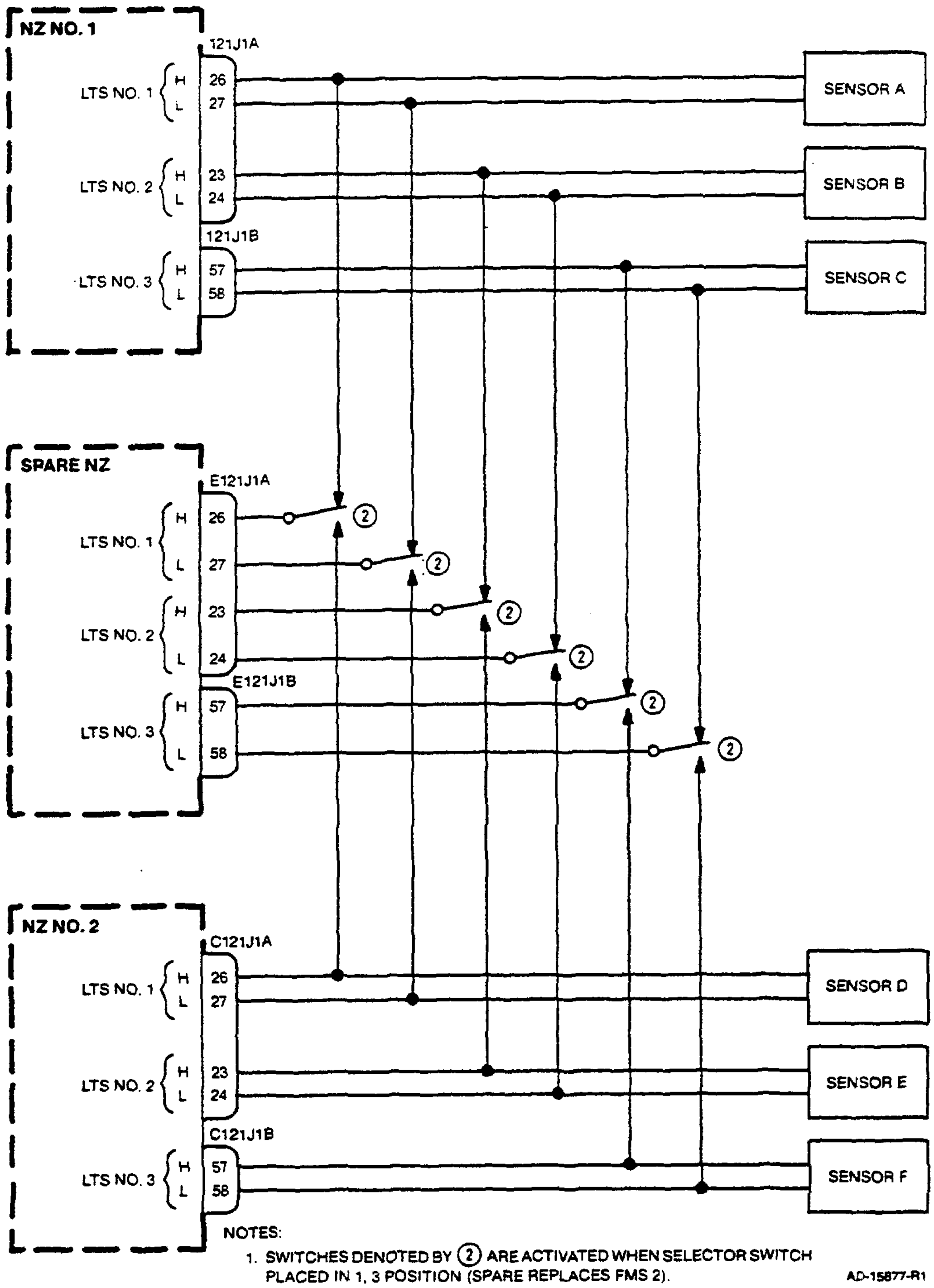
Spare FMS Radio Switching
Figure G-6

Interconnect Information
Table 501 (cont)



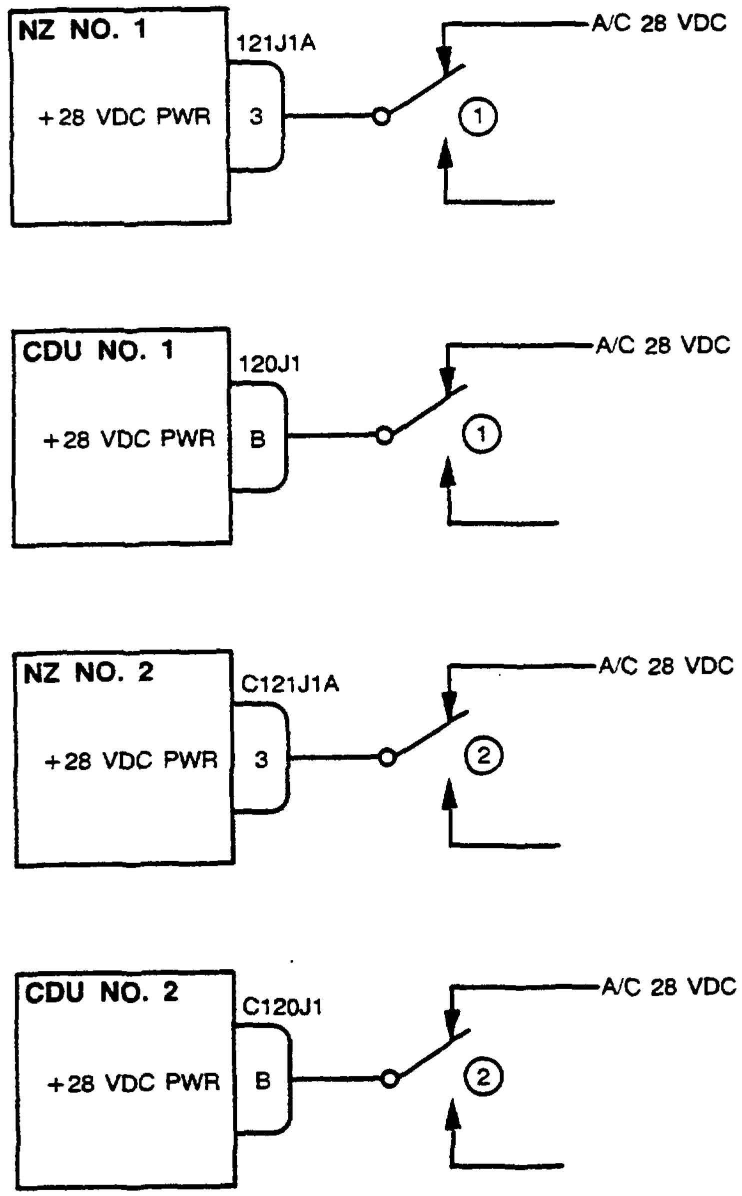
FMS Discrete Switching
Figure G-7

Interconnect Information
Table 501 (cont)



Long Term Sensor Switching
Figure G-8

Interconnect Information
Table 501 (cont)



NOTES:

1. SWITCHES DENOTED BY (1) ARE ACTIVATED WHEN SELECTOR SWITCH PLACED IN 2, 3 POSITION (SPARE REPLACES FMS 1).

2. SWITCHES DENOTED BY (2) ARE ACTIVATED WHEN SELECTOR SWITCH PLACED IN 1, 3 POSITION (SPARE REPLACES FMS 2).

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Input Power Switching
Figure G-9

Interconnect Information
Table 501 (cont)

APPENDIX H
P-800 WEATHER RADAR SYSTEM INSTALLATION

APPENDIX H
P-800 WEATHER RADAR SYSTEM INSTALLATION

1.0 P-800 WEATHER RADAR SYSTEM INSTALLATION

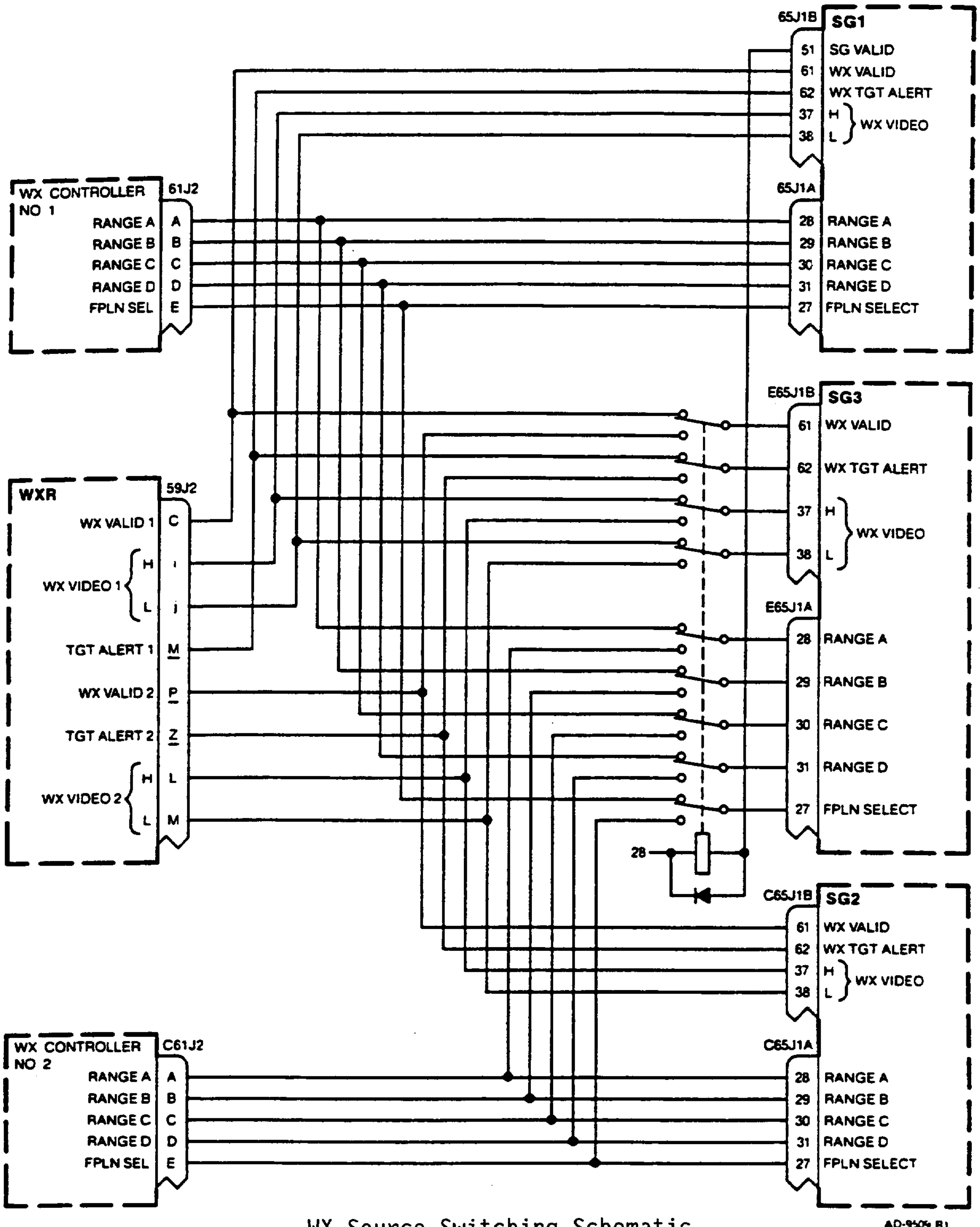
1.1 Equipment List

Connector Designator	Description	Qty	Part Number	Outline & Installation Dwg. No.	Mating Connector	Mounting Hardware
59J1 59J2	WR-800 Weather Radar R/T	1	MI585350-34	3715751 (Installation Manual, Pub. No. IB8023137)	(J1) KPSE06F22-55S (J2) KPSE06F22-55SW	Tray SPN - MI585356
60J1	WA-800 WXR Antenna Ped.	1	MI585354	1713860	KPSE06F20-39S	Flange Mount
----	FP-900 WXR Flat Plate Radiator	1	MI585377	3714499	----	----
61J1, 61J2 C61J1, C61J2	WC-810 WXR Controller	2	7006921-311/-312	7006922	(J1) KJ6F14A-18SN (J2) KJ6F14A-18SA	Dzus Mount

1.2 Equipment Power and Weight

Unit No.	Description	Power	Weight
59	WR-800 Weather Radar R/T	168 Watts/28 V dc 40 VA/115 V ac	21.0 lbs
60	WA-800 WXR	----	15.25 lbs with Flat Plate
61	WC-810 WXR Controller	15 Watts/28 V dc Panel Lighting - 4.6 W/5 V dc or 28 V dc	1.9 lbs

Interconnect Information
Table 501 (cont)



WX Source Switching Schematic
Figure H-1

Interconnect Information
Table 501 (cont)

1.3 Mechanical Installation Information

1.3.1 Weather Radar R/T (WXR R/T) Installation - This unit shall have an envelope size of 1/2 ATR and shall be mounted on a mounting tray Honeywell P/N MI585356. If the WXR R/T is subject to vibration greater than specified by DO-160A Category 0, it shall be mounted on vibration isolators.

There are no external cooling requirements for the weather radar R/T; a 28 V dc fan is mounted on the rear of the unit to ensure adequate heat dissipation. In addition, a minimum one inch clearance shall be provided between the top, back, sides and front of the unit and any adjacent equipment for thermal isolation.

For optimum service life the R/T should be installed in a location where ambient air temperature is between -20°C and +40°C. However, it should be as close as possible to the WXR antenna.

The weather radar R/T shall meet the environmental requirements as listed in Appendix E of this installation bulletin.

NOTE: For further information on the Primus 800 Coloradar System, please reference: Primus 800, System Description and Installation Manual, Pub. No. IB8023137.

1.3.2 Weather Radar Antenna Installation - The antenna pedestal is designed for cantilever mounting on the aircraft bulkhead and provides line-of-sight stabilization. The antenna pedestal accommodates an 18 in. flat plate phase array radiator.

There are no external cooling requirements for the antenna pedestal. The antenna pedestal shall meet the environmental requirements as listed in Appendix E of this installation bulletin.

NOTE: Maximum Permissible Exposure Level (MPEL) - Radiation effects of weather radar can be hazardous to life. Personnel should remain at a distance greater than 8 feet from the radiating Antenna of the radar system in order to be outside the envelope in which radiation exposure levels equal or exceed 10 milliwatts per square centimeter (the limit recommended in FAA Advisory Circular No. 20-68A, dated April 11, 1975). The distance of 8 feet, which defines the MPEL boundary is calculated on the basis of radiator diameter, rated peak-power output, and duty cycle for the radar system. These are far-field distance calculations, based on the recommendations outlined in AC No. 20-68A. The near-field to far-field intersection distances are less than the safe distance listed here.

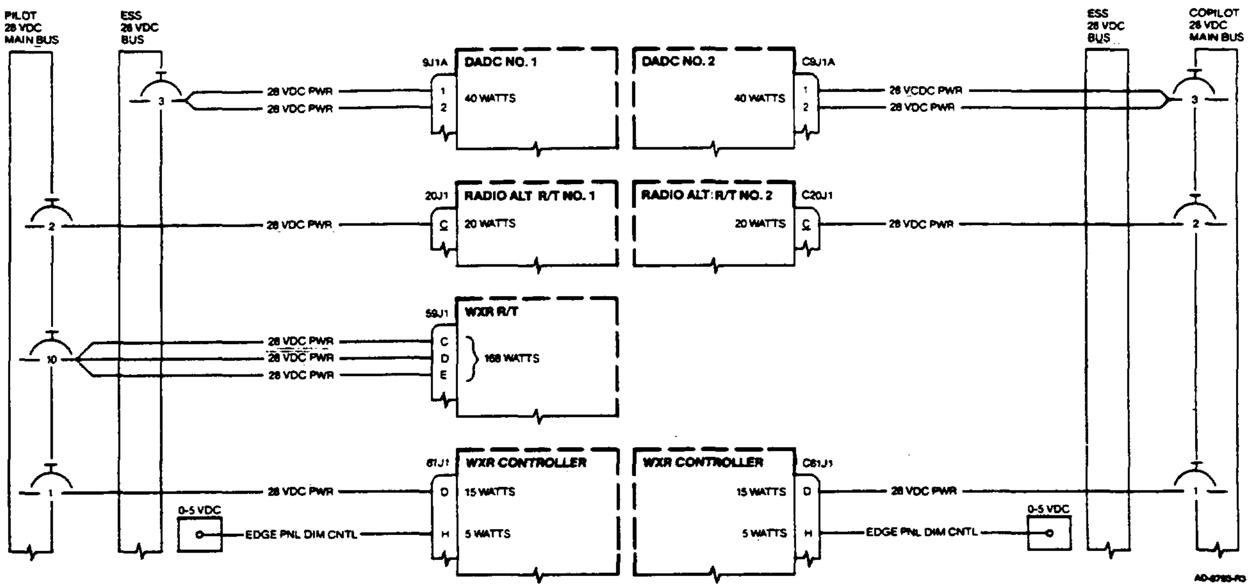
Interconnect Information
Table 501 (cont)

1.3.3 Weather Radar Controller Panel - The WXR controller panels maximum allowable envelope shall be:

Width	Height	Depth
5.75 in.	1.875 in.	6.5 in.

There are no external cooling requirements for the WXR controller panel. The WXR controller shall meet the environmental requirements as listed in Appendix E of this installation bulletin.

1.4 Power Distribution



Interconnect Information
Table 501 (cont)

Weather Radar R/T

IOB P	Function	Connector Pin	Connects To
(I)	115 V 400 HZ REF (H)	59J1-A (22)	A/C 115 V AC; 400 HZ PWR
(I)	115 V 400 HZ REF (L)	-B (22)	A/C PWR GND
(P)	28 V DC POWER	-C (NOTE 3)	28 V DC, A/C PWR
(P)	28 V DC POWER	-D (NOTE 3)	28 V DC, A/CPWR
(P)	28 V DC POWER	-E (NOTE 3)	28 V DC, A/CPWR
(P)	28 V DC POWER RETURN	-F (NOTE 3)	A/C PWR GND
(P)	28 V DC POWER RETURN	-G (NOTE 3)	A/C PWR GND
(P)	28 V DC POWER RETURN	-H (NOTE 3)	A/C PWR GND
(B)	ATT (ARINC 429) (L)	-J (22)	IRS HI SPEED OUTPUT
(B)	ATT (ARINC 429) (H)	-CC (22)	
	SPARE	-K	
	SPARE	-L	
(O)	ELEV MOTOR (H)	-M (22)	60J1-X
(O)	ELEV MOTOR (L)	-GG (22)	60J1-W
(O)	CONTROL PANEL GND	-N (22)	61J1-C
	SPARE	-P	
(P)	28 V DC SWITCHED	-R (22)	60J1-K
(P)	ANTENNA GND	-S (22)	60J1-L
(O)	115 V AC; 400 HZ (L)	-T (22)	60J1-M
(O)	ANT PWR (H)	-U (22)	60J1-N
	SPARE	-V	
	SPARE	-W	
(O)	ELEV RESOLVER S1	-X (22)	60J1-P
(O)	ELEV RESOLVER S3	-Y (22)	60J1-R
(O)	ELEV RESOLVER S2	-Z (22)	60J1-T
(O)	ELEV RESOLVER S4	-r (22)	60J1-U
(I)	SHIELD GND	-a	
(I)	AZ CENTER RESOLVER (H)	-b (22)	60J1-D
(I)	AZ CENTER RESOLVER (L)	-q (22)	60J1-E
	SPARE	-c	
	SPARE	-d	
	SPARE	-e	
(O)	AZ DRIVE (P) B	-f (22)	60J1-H
(O)	AZ DRIVE (P) A	-BB (22)	60J1-A
(I)	SHIELD GND	-DD (22)	
(I)	ELEVATION TACH (L)	-g (22)	60J1-Z
(I)	ELEVATION TACH (H)	-p (22)	60J1-Y
(I)	RT ON/OFF (GND/OPEN)	-h (22)	61J1-N,C61J1-N
(I)	SERIAL CONTROL (H)	-i (22)	61J1-A
(I)	SERIAL CONTROL (L)	59J1-y (22)	61J1-B

Interconnect Information
Table 501 (cont)

Weather Radar R/T

IOB P	Function	Connector Pin	Connects To
	SPARE	59J1-j	
(P)	+28 V DC	-k (20)--------------------	60J1-n
	SPARE	-m	
	SPARE	-n	
	SPARE	-s	
	SPARE	-t	
	SPARE	-u	
	SPARE	-v	
	SPARE	-w	
	SPARE	-x	
	SPARE	-z	
	SPARE	-AA	
	SPARE	-EE	
	SPARE	-FF	
	SPARE	59J1-HH	

Interconnect Information
Table 501 (cont)

Weather Radar R/T

IOB P	Function	Connector Pin	Connects To
(O)	WX SERIAL DATA #1 (H)	59J2-A (22)	65J1A-51, E65J1A-51
(O)	(L)	-T (22)	65J1A-52, E65J1A-52
(I)	SHIELD GND	-h (22)	
(O)	WX SERIAL DATA #2 (H)	-V (22)	C65J1A-1, E65J1A-1
(O)	(L)	-B (22)	C65J1A-2, E65J1A-2
(I)	SHIELD GND	-g (22)	
(O)	FAULT (NO. 1) (GND/OPEN)	-C (22)	PAGE H-2 PAGE H-14
	SPARE	-D	
	SPARE	-E	
	SPARE	-F	
	SPARE	-G	
	SPARE	-H	
	SPARE	-J	
	SPARE	-K	
(O)	WX VIDEO #2 (H)	-L (22)	PAGE H-2
(O)	WX VIDEO #2 (L)	-M (22)	PAGE H-2
			TIE TO 59J2-g
	SPARE	-N	
(I)	CONTROL PANEL GND	-P (22)	C61J-C
(I)	SIGNAL GND (NO. 1)	-R (22)	SIGNAL GND
(I)	SIGNAL GND (NO. 2)	-S (22)	SIGNAL GND
(I)	SERIAL CONTROL (H)	-U (22)	C61J1-A
(I)	SERIAL CONTROL (L)	-n (22)	C61J1-B
	SPARE	-W	
	SPARE	-X	
	SPARE	-Y	
	SPARE	-Z	
	SPARE	-a	
	SPARE	-b	
	SPARE	-c	
	SPARE	-d	
	SPARE	-e	
	SPARE	-f	
(O)	WX VIDEO NO. 1 (H)	-i (22)	PAGE H-2
(O)	WX VIDEO NO. 1 (L)	59J2-j (22)	PAGE H-2

Interconnect Information
Table 501 (cont)

Weather Radar R/T

IOB P	Function	Connector Pin	Connects To
	SPARE	59J2-k	
(O)	TGT ALERT NO. 1 (GND/OPEN)	-m (22)	PAGE H-2 } REF PAGE H-14
(O)	FAULT (NO. 2) (GND/OPEN)	-p (22)	PAGE H-2 } REF PAGE H-14
	SPARE	-q	
	SPARE	-r	
	SPARE	-s	
	SPARE	-t	
	SPARE	-u	
	SPARE	-v	
	SPARE	-w	
	SPARE	-x	
	SPARE	-y	
(O)	TGT ALERT (NO. 2) (GND/OPEN)	-z (22)	PAGE H-2 REF PAGE H-14
	SPARE	-AA	
	SPARE	-BB	
	SPARE	-CC	
	SPARE	-DD	
	SPARE	-EE	
	SPARE	-GG	
	SPARE	59J2-HH	

NOTE: FOR FURTHER INFORMATION ON THE WEATHER RADAR SYSTEM, PLEASE REF: P-800 SDI, PUB. NO. IB8023137.

Interconnect Information
Table 501 (cont)

Weather Radar Antenna

IOB P	Function		Connector Pin	Connects To
(I)	AZ DRIVE A (P)		60J1-A (22)	59J1-BB
	SPARE		-B	
	SPARE		-C	
(O)	AZ CENTER RESOLVER	R1	-D (22)	59J1-b
		R2	-E (22)	59J1-q
(O)	115 V AC 400 HZ REF	(H)	-F ------NC	
(O)	115 V AC 400 HZ REF	(L)	-G ------NC	
(I)	AZ DRIVE B (P)		-H (22)	59J1-f
(P)	28 V DC SWITCHED		-K (22)	59J1-R
(I)	ANTENNA GROUND		-L (22)	59J1-S
(I)	115 V AC;400 HZ ANT PWR	(L)	-M (22)	59J1-T
(I)	115 V AC;400 HZ ANT PWR	(H)	-N (22)	59J1-U
(O)	ELEVATION RESOLVER	S1	-P (22)	59J1-X
		S3	-R (22)	59J1-Y
	SPARE		-S	
(O)	ELEVATION RESOLVER	S2	-T (22)	59J1-Z
		S4	-U (22)	59J1-r
	SPARE		-V	
(I)	ELEVATION MOTOR	(L)	-W (22)	59J1-GG
		(H)	-X (22)	59J1-M
(O)	ELEVATION TACH	(H)	-Y (22)	59J1-p
		(L)	-Z (22)	59J1-g
	SPARE		-a	
	SPARE		-b	
	SPARE		-c	
	SPARE		-d	
	SPARE		-e	
	SPARE		-f	
(I)	SHIELD GROUND		-g (22)	
	SPARE		-h	
	SPARE		-i	
	SPARE		-j	
	SPARE		-k	
	SPARE		-m	
(I)	28 V DC		-n (20)	59J1-k
	SPARE		-p	
	SPARE		-q	
	SPARE		60J1-r	

Interconnect Information
Table 501 (cont)

Weather Radar Controller No. 1

IOB P	Function	Connector Pin	Connects To
(O)	SERIAL CONTROL (H)	61J1-A (22)	59J1-i
(O)	SERIAL CONTROL (L)	-B (22)	59J1-y
(I)	SHIELD GND	-M (22)	
(P)	CONTROL PANEL GND	-C (22)	59J1-N
(P)	28 V DC POWER	-D (NOTE 3)	A/C PWR
(P)	28 V DC PWR RTN	-E (NOTE 3)	A/C PWR RTN
	SPARE	-F	
(P)	28 V PANEL LIGHTING	-G ------NC	
(P)	5 V PANEL LIGHTING	-H (22)	A/C LIGHTING
(P)	LIGHTING COMMON	-J (22)	A/C LIGHTING GND
(P)	PUSHBUTTON 28V LIGHTING	-K (22)	A/C LIGHTING
	RESERVED	-L	
(O)	R/T ON/OFF (GND/OPEN)	-N (22)	C61J1-N,59J1-h
(I)	FORCED STANDBY*	-P (22)	A/C WIRING, REF PAGE H-15
	RESERVED	-R	
	SPARE	-S	
	SPARE	-T	
	SPARE	61J1-U	

Interconnect Information
Table 501 (cont)

Weather Radar Controller No. 1

IOB P	Function	Connector Pin		Connects To	
(O)	RANGE A	61J2-A (22)		PAGE H-2	PAGE H-16
(O)	RANGE B	-B (22)		PAGE H-2	
(O)	RANGE C	-C (22)		PAGE H-2	
(O)	RANGE D	-D (22)		PAGE H-2	
(O)	FPLN SELECTED (GND/OPEN)	-E (22)		PAGE H-2	
(I)	WX INT (H)	-F (22)		131J1-2	
(O)	WX INT (W)	-G (22)		131J1-15	
(I)	WX INT (L)	-H (22)		131J1-3	
(I)	PROGRAM RANGE A	-J (22)		A/C WIRING	PAGE H-15
(I)	PROGRAM RANGE B	-K (22)		A/C WIRING	
(I)	PROGRAM RANGE C	-L (22)		A/C WIRING	
(I)	PROGRAM RANGE D	-M (22)		A/C WIRING	
(I)	PROGRAM RANGE COMM	-N (22)		A/C WIRING	
	RESERVED	-P			
(O)	ID PROG COM	-R	NC		
(I)	ID PROG	-S	NC		
	SPARE	-T			
	SPARE	61J2-U			

NOTE: FOR FURTHER INFORMATION ON THE WEATHER RADAR SYSTEM, PLEASE REF: P-800 SDI, PUB. NO. IB8023137.

Interconnect Information
Table 501 (cont)

Weather Radar Controller No. 2

IOB P	Function	Connector Pin	Connects To
(O)	SERIAL CONTROL (H)	C61J1-A (22)	59J2-U
(O)	SERIAL CONTROL (L)	-B (22)	59J2-n
(I)	SHIELD GND	-M (22)	
(P)	CONTROL PANEL GND	-C (22)	59J2-P
(P)	28 V DC POWER	-D (NOTE 3)	A/C PWR
(P)	28 V DC PWR RTN	-E (NOTE 3)	A/C PWR RTN
	SPARE	-F	
(P)	28 V PANEL LIGHTING	-G ------NC	
(P)	5 V PANEL LIGHTING	-H (22)	A/C LIGHTING
(P)	LIGHTING COMMON	-J (22)	A/C LIGHTING GND
(P)	PUSHBUTTON 28V LIGHTING	-K (22)	A/C LIGHTING
(I)	RESERVED	-L	
(O)	R/T ON/OFF (GND/OPEN)	-N (22)	61J1-N,59J1-h
(I)	FORCED STANDBY*	-P (22)	A/C WIRING, REF PAGE H-15
	RESERVED	-R	
	SPARE	-S	
	SPARE	-T	
	SPARE	C61J1-U	

Interconnect Information
Table 501 (cont)

Weather Radar Controller No. 2

IOB P	Function	Connector Pin	Connects To	
(O)	RANGE A	C61J2-A (22)	PAGE H-2	PAGE H-16
(O)	RANGE B	-B (22)	PAGE H-2	
(O)	RANGE C	-C (22)	PAGE H-2	
(O)	RANGE D	-D (22)	PAGE H-2	
(O)	FPLN SELECTED (GND/OPEN)	-E (22)	PAGE H-2	
			A/C WIRING	
(I)	WX INT (H)	-F (22)	C131J1-2	
(O)	WX INT (W)	-G (22)	C131J1-15	
(I)	WX INT (L)	-H (22)	C131J1-3	
(I)	PROGRAM RANGE A	-J (22)	A/C WIRING	PAGE H-15
(I)	PROGRAM RANGE B	-K (22)	A/C WIRING	
(I)	PROGRAM RANGE C	-L (22)	A/C WIRING	
(I)	PROGRAM RANGE D	-M (22)	A/C WIRING	
(O)	PROGRAM RANGE COMM	-N (22)	A/C WIRING	
	RESERVED	-P		
(O)	ID PROGRAM	-R (22)	C61J2-S	
(I)	ID PROGRAM	-S (22)	C61J2-R	
	SPARE	-T		
	SPARE	C61J2-U		

NOTE: FOR FURTHER INFORMATION ON THE WEATHER RADAR SYSTEM, PLEASE REF: P-800 SDI, PUB. NO. IB8023137.

Interconnect Information
Table 501 (cont)

59. Weather Radar R/T Discrete Summary

Discrete Inputs

The WX R/T does not provide any discrete inputs that are installation variable.

Discrete Outputs

WX R/T Fault No. 1 59J2-C

Gnd/Open Type A

Ground = Antenna Fault
Open = Normal Operation

Target Alert No. 1 59J2-m

Gnd/Open Type A

Ground = Target Alert
Open = Normal Operation

WX R/T Fault No. 2 59J2-p

Gnd/Open Type A

Ground = Antenna Fault
Open = Normal Operation

Target Alert No. 2 59J2-z

Gnd/Open Type A

Ground = Target Alert
Open = Normal Operation

Interconnect Information
Table 501 (cont)

61. WX Controller Discrete Summary

Discrete Inputs

Forced Standby 61/C61J1-P

Gnd/Open Type A

Ground = Forced Standby
Open = Normal Operation

Program Range A	61/C61J2-J
Program Range B	61/C61J2-K
Program Range C	61/C61J2-L
Program Range D	61/C61J2-M
Program Range Comm	61/C61J2-N

Gnd/Open Type A

Range (nmi)	D	C	B	A
0.5	Open	Open	Open	Gnd
1.0	Open	Open	Gnd	Open
2.5	Gnd	Gnd	Gnd	Gnd
5.0	Gnd	Gnd	Gnd	Open
10	Gnd	Gnd	Open	Gnd
25	Gnd	Gnd	Open	Open
50	Gnd	Open	Gnd	Gnd
100	Gnd	Open	Open	Open
150	Open	Open	Gnd	Gnd
200	Gnd	Open	Open	Gnd
300	Gnd	Open	Gnd	Open
500	Open	Gnd	Open	Open
1000	Open	Gnd	Open	Gnd
2000	Open	Gnd	Gnd	Open

NOTE: Program Range Pins must be grounded by using the Program Range Comm (61/C61J2-N). These pins must not be tied to Aircraft Gnd.

Interconnect Information
Table 501 (cont)

ID Program Pin 61/C61J2-S

Gnd/Open Type A

Short to C61J2-R for WXC #2
Open = WXC #1

Discrete Outputs

Range A	61/C61J2-A
Range B	61/C61J2-B
Range C	61/C61J2-C
Range D	61/C61J2-D

Gnd/Open Type A

Provides encoded WX Range per the range select knob or per 61/C61J2-J/K/L/M when FPLN is selected.

FPLN 61/C61J2-E

Gnd/Open Type A

Ground = Flight Plan Mode Selected
Open = Normal Operation

Interconnect Information
Table 501 (cont)

APPENDIX I
VLF/OMEGA SYSTEM INSTALLATION

APPENDIX I
VLF/OMEGA SYSTEM INSTALLATION

1.0 VLF/OMEGA SYSTEM INSTALLATION

1.1 Scope

This Appendix provides data for installation of a VLF/Omega system into the G-IV aircraft. Both electrical and mechanical parameters are provided. Interconnect information deals not only with the components of the VLF/Omega system itself, but also the wiring modifications required to integrate it into the baseline G-IV system. Information for both single and dual VLF installations is provided.

1.2 Operational Description

The VLF/Omega system consists of the OZ-800 VLF/Omega Receiver/Processor Unit (RPU) and one of the following:

- AT-800 H-Field, Tear Drop Antenna/Coupler Unit
- AT-801 H-Field, Brick Antenna/Coupler Unit
- AT-802 Antenna Coupler Amplifier
- AT-803 E-Field, Blade Antenna/Coupler Unit

The VLF/Omega system is approved for use under FAA TSO-C94a. It provides updated position and velocity information to and receives initialization data from the two Navigation Computers (NZ-800). Communication to and from the VLF/Omega sensor is via ARINC 429. Each sensor contains two low-speed ARINC 429 receivers and two high-speed Arinc 429 transmitters.

The RPU is housed in a standard ARINC 1/4 ATR short box. It receives the amplified antenna signals and converts them into position information. The RPU contains the ARINC 429 interface for communication with the Nav Units. The RPU also supplies the antenna with its required ±12 V dc power.

The H-field antennas receive and amplify the magnetic field component of the Omega signals. The tear drop antenna is a small, lightweight loop antenna that is mounted with screws through the main body of the antenna. The brick antenna is electrically equivalent to the tear drop antenna. It is designed for mounting on aircraft which require internal mounting within tail cones and fin caps.

These antennas are susceptible to magnetic field components produced by aircraft electrical equipment. Strong current impulses produced by switch closures, relay contacts, transformer saturation effects, etc., can generate magnetic fields with frequency components extending into the Omega band. Unless previous experience or an equivalent installation has been made, an electrical skin map of the aircraft will have to be made to determine the optimum location for the antenna.

The antenna coupler amplifier is designed to accommodate the simultaneous operation of a single VLF and ADF system using a common ADF-sense antenna.

A block diagram of a system employing a single VLF/Omega receiver is shown in Figure I-1. A dual VLF/Omega installation is shown in Figure I-2.

1.3 Environmental Qualifications

The VLF/Omega units have been qualified to the DO-160B standards called out in Table I-2.

There are no external cooling requirements for the RPU. A minimum 2-inch clearance around the RPU is recommended for thermal isolation.

1.4 Power and Weight Specifications

Power and weight specs for the units comprising the VLF/Omega system are listed in Table I-3.

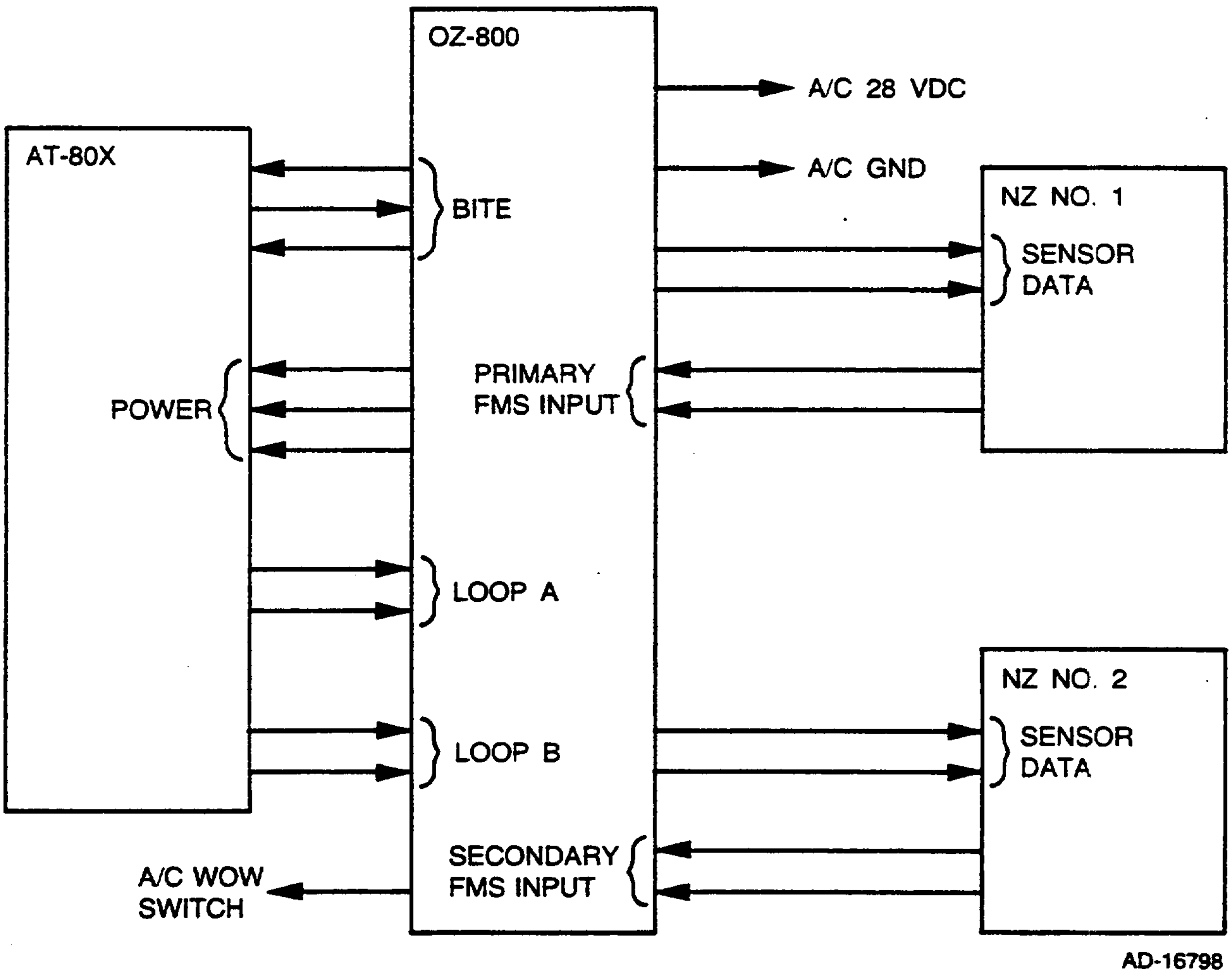
1.5 Other Mounting/Wiring Constraints

The cable run between the antenna/coupler unit and the VLF/Omega receiver is not to exceed 200 feet.

Shields should be terminated as shown. Connecting shields together in the antenna cable can cause signal to be excessively noisy or, in extreme cases, actual loss of signal.

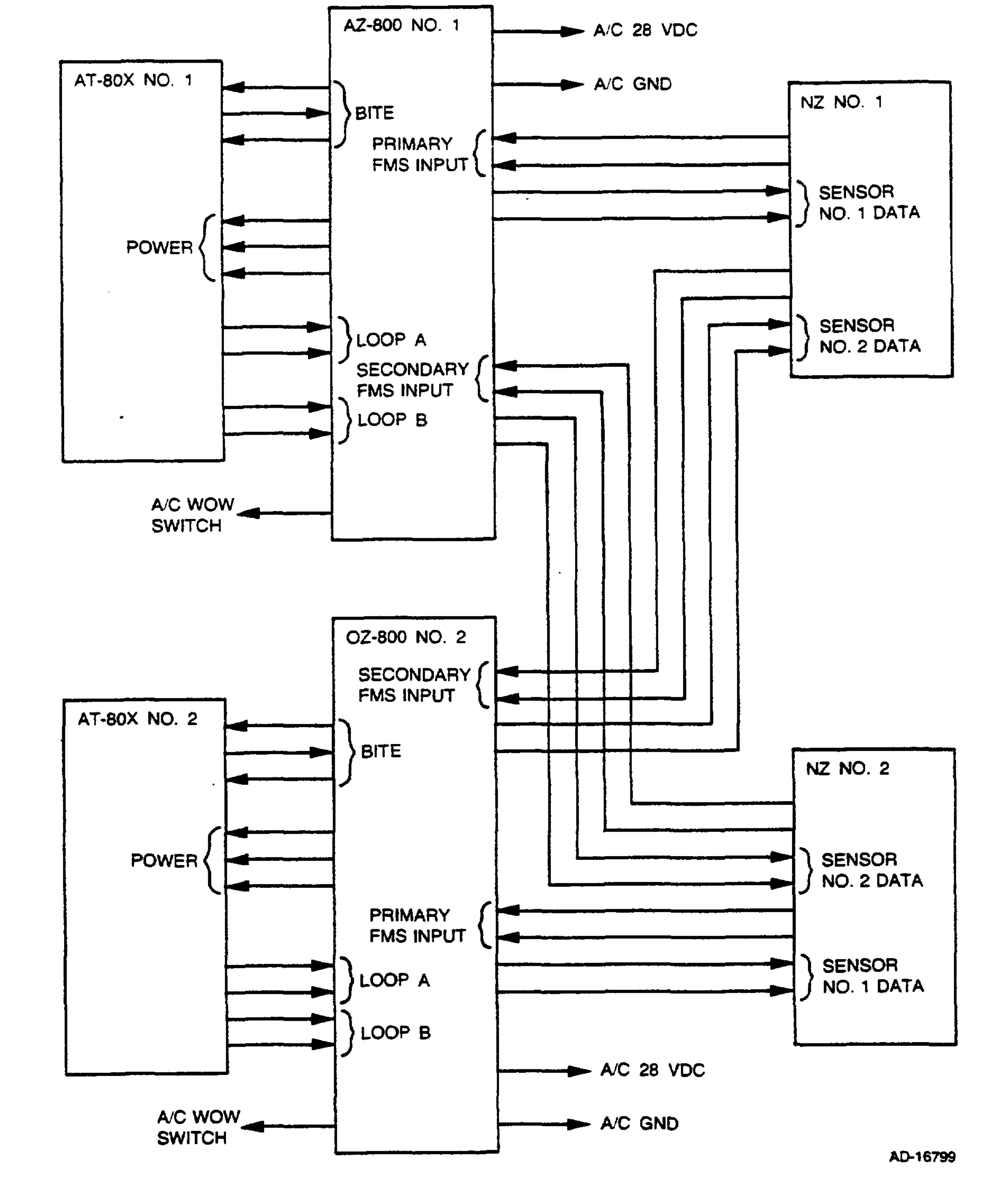
The VLF/Omega sensor(s) may be connected to any FMS Long Term Sensor (LTS) input port. All LTS inputs require proper identification. Tables I-4, I-5, and I-6 provide configuration information for the FMS LTS input ports.

Interconnect Information
Table 501 (cont)



Block Diagram - Single VLF/Omega Installation
Figure I-1

Interconnect Information
Table 501 (cont)



Block Diagram - Dual VLF/Omega Installation
Figure I-2

Interconnect Information
Table 501 (cont)

Table I-2
Environmental Qualifications

CATEGORY	QUALIFICATION	
	OZ-800	AT-80X
Temperature/Altitude	F2	F2
Temperature Variation	B	X
Humidity	B	C
Shock	Operational: 6G Crash Safety: 15G	Operational: 6G Crash Safety: 15G
Vibration	O	J
Explosion	X	X
Waterproofness	X	X
Fluid Susceptibility	X	X
Sand and Dust	X	X
Fungus Resistance	X	X
Salt Spray	X	X
Magnetic Effect	Z	X
Power Input	A	X
Voltage Spike	A	X
Audio Frequency	Z	X
Electromagnetic Compatibility (Induced Signal Suscpetibility/ /RF Susceptibility/RF Emissions)	Z/Z/Z	X/X/X

Interconnect Information
Table 501 (cont)

Table I-3
Weight and Power Specifications

Unit	Weight	Power
OZ-800	6.5 lbs	28 V dc, 34 W
AT-800	2.2 lbs	± 12 V dc, 0.18 W
AT-801	2.2 lbs	± 12 V dc, 0.18 W
AT-802	.74 lbs	± 12 V dc, 0.18 W
AT-803	1.8 lbs	± 12 V dc, 0.18 W

Note: AT-80X power is supplied by OZ-800.

1.6 Interconnect Information - Single System

Interconnect data for a single VLF/Omega system installation follows. Complete information is provided for the RPU and antenna. Modifications to the baseline G-IV system are also included. The RPU may be connected to any of the three available LTS input ports of the Navigation Computer. Table I-4 provides VLF/Omega configuration data for each of the FMS input ports.

NAVIGATION COMPUTER NO. 1
(Single System)

IOB P	Function		Connector Pin	Connects To
(B)	ARINC 429 RCVR -	(H)	121J1A-23 (22)	TABLE I-4
(B)	LTS #2	(L)	-24 (22)	TABLE I-4
(B)	ARINC 429 RCVR -	(H)	-26 (22)	TABLE I-4
(B)	LTS #1	(L)	-27 (22)	TABLE I-4
(I)	HIGH/LOW* SPEED BUS-LTS #1		-47 (22)	TABLE I-4
(I)	HIGH/LOW* SPEED BUS-LTS #2		-48 (22)	TABLE I-4
(I)	HIGH/LOW* SPEED BUS-LTS #3		-49 (22)	TABLE I-4
(B)	ARINC 429 XMTR -	(H)	-50 (22)	141J1-27
(B)	GEN BUS PRIMARY	(L)	121J1A-51 (22)	141J1-28
			SHIELD GND	
(B)	ARINC 429 RCVR -	(H)	121J1B-57 (22)	TABLE I-4
(B)	LTS #3	(L)	-58 (22)	TABLE I-4
(I)	LTS #1 NUMBER BIT #1		-59 (22)	TABLE I-4
(I)	LTS #1 NUMBER BIT #2		-60 (22)	TABLE I-4
(I)	LTS #2 NUMBER BIT #1		-61 (22)	TABLE I-4
(I)	LTS #2 NUMBER BIT #2		-62 (22)	TABLE I-4
(I)	LTS #3 NUMBER BIT #1		-63 (22)	TABLE I-4
(I)	LTS #3 NUMBER BIT #2		-64 (22)	TABLE I-4
(I)	LTS #1 CONFIG		-74 (22)	TABLE I-4
(I)	LTS #1 CONFIG		-75 (22)	TABLE I-4
(I)	LTS #1 CONFIG		-76 (22)	TABLE I-4
(I)	LTS #2 CONFIG		-77 (22)	TABLE I-4
(I)	LTS #2 CONFIG		-78 (22)	TABLE I-4
(I)	LTS #2 CONFIG		-79 (22)	TABLE I-4
(I)	LTS #3 CONFIG		-89 (22)	TABLE I-4
(I)	LTS #3 CONFIG		-90 (22)	TABLE I-4
(I)	LTS #3 CONFIG		121J1B-91 (22)	TABLE I-4

Interconnect Information
Table 501 (cont)

NAVIGATION COMPUTER NO. 2
(Single System)

IOB P	Function		Connector Pin		Connects To
(B)	ARINC 429 RCVR -	(H)	C121J1A-23	(22)	TABLE I-4
(B)	LTS #2	(L)	-24	(22)	TABLE I-4
(B)	ARINC 429 RCVR -	(H)	-26	(22)	TABLE I-4
(B)	LTS #1	(L)	-27	(22)	TABLE I-4
(I)	HIGH/LOW* SPEED BUS-LTS #1		-47	(22)	TABLE I-4
(I)	HIGH/LOW* SPEED BUS-LTS #2		-48	(22)	TABLE I-4
(I)	HIGH/LOW* SPEED BUS-LTS #3		-49	(22)	TABLE I-4
(B)	ARINC 429 XMTR -	(H)	-50	(22)	141J1-25
(B)	GEN BUS PRIMARY	(L)	C121J1A-51	(22)	141J1-26
		SHIELD GND			
(B)	ARINC 429 RCVR -	(H)	C121J1B-57	(22)	TABLE I-4
(B)	LTS #3	(L)	-58	(22)	TABLE I-4
(I)	LTS #1 NUMBER BIT #1		-59	(22)	TABLE I-4
(I)	LTS #1 NUMBER BIT #2		-60	(22)	TABLE I-4
(I)	LTS #2 NUMBER BIT #1		-61	(22)	TABLE I-4
(I)	LTS #2 NUMBER BIT #2		-62	(22)	TABLE I-4
(I)	LTS #3 NUMBER BIT #1		-63	(22)	TABLE I-4
(I)	LTS #3 NUMBER BIT #2		-64	(22)	TABLE I-4
(I)	LTS #1 CONFIG		-74	(22)	TABLE I-4
(I)	LTS #1 CONFIG		-75	(22)	TABLE I-4
(I)	LTS #1 CONFIG		-76	(22)	TABLE I-4
(I)	LTS #2 CONFIG		-77	(22)	TABLE I-4
(I)	LTS #2 CONFIG		-78	(22)	TABLE I-4
(I)	LTS #2 CONFIG		-79	(22)	TABLE I-4
(I)	LTS #3 CONFIG		-89	(22)	TABLE I-4
(I)	LTS #3 CONFIG		-90	(22)	TABLE I-4
(I)	LTS #3 CONFIG		C121J1B-91	(22)	TABLE I-4

Interconnect Information
Table 501 (cont)

RECEIVER PROCESSOR UNIT
(Single System)

IOB P	Function		Connector Pin		Connects To
(O)	BITE	(L)	141J1-1	(22)	142/151J1-3 (142J1-F) (Note 2)
(O)	BITE	(H)	-10	(22)	142/151J1-1 (142J1-E) (Note 2)
(I)	ACU TYPE		-36	(22)	142/151J1-2 (Note 2)
(I)	BITE SHIELD		-20		
(I)	DATA FROM CDU	(L)	-2		NC
(I)	LOOP A	(H)	-3	(22)	142/151J1-9 (142J1-H)
(I)	LOOP A	(L)	-4	(22)	142/151J1-10 (142J1-A)
(I)	LOOP A SHIELD		-13		
(I)	DATA FROM CDU	(H)	-5		NC
(I)	LOOP B	(H)	-6	(22)	142/151J1-12
(I)	LOOP B	(L)	-7	(22)	142/151J1-13
(I)	LOOP B SHIELD		-16		
(O)	POWER COMMON		-9	(22)	142/151J1-6 (142J1-D)
(O)	+12 VDC		-18	(22)	142/151J1-7 (142J1-B)
(O)	-12 VDC		-19	(22)	142/151J1-5 (142J1-C)
(I)	+/- 12 VDC PWR SHIELD		-8		
(I)	OUTER SHIELD		-31		
(I)	TAS	(Z)	-11		NC
(I)	TAS	(X)	-12		NC
(B)	ARINC 429 XMTR -	(H)	-14	(22)	TABLE I-4
(B)	PRIMARY DATA	(L)	-15	(22)	TABLE I-4
(I)	SHIELD COMMON		-44		
(I)	TAS	(Y)	-17		NC
(I)	TAS (SIGNAL)		-21		NC
(I)	TAS VALID		-22		NC
(B)	ARINC 429 XMTR -	(H)	-23	(22)	TABLE I-4
(B)	SECONDARY DATA	(L)	-24	(22)	TABLE I-4
(I)	SHIELD COMMON		-44		
(B)	ARINC 429 RCVR -	(H)	-25	(22)	C121J1A-50
(B)	SECONDARY DATA	(L)	141J1-26	(22)	C121J1A-51

Interconnect Information
Table 501 (cont)

RECEIVER PROCESSOR UNIT
(Single System)

IOB P	Function		Connector Pin		Connects To
(B)	ARINC 429 RCVR -	(H)	141J1-27	(22)	121J1A-50
(B)	PRIMARY DATA	(L)	-28	(22)	121J1A-51
(I)	SDI BIT 0		-29	NC	
(I)	SDI BIT 1		-30	NC	
(O)	DATA TO CDU	(L)	-32	NC	
(O)	DATA TO CDU	(H)	-33	NC	
(I)	TAS REF		-34	NC	
(O)	FSK DATA	(H)	-35	NC	
(I)	TAS 400 HZ REF	(H)	-37	NC	
(I)	TAS 400 HZ REF	(L)	-38	NC	
(I)	COMPASS VALID		-39	NC	
(I)	SECONDARY ON/OFF CONTROL		-40	(22)	141J1-49, 141J1-53
(I)	HDG 400 HZ REF	(H)	-41	NC	
(I)	HDG 400 HZ REF	(L)	-42	NC	
(O)	FSK DATA	(L)	-43	NC	
(I)	HDG	(Z)	-45	NC	
(I)	HDG	(Y)	-46	NC	
(I)	HDG	(X)	-47	NC	
(I)	RANGE/HYPERBOLIC MODE(OPEN/GND)		-48	NC	
(I)	PRIMARY ON/OFF CONTRO		-49	(22)	141J1-40, 141J1-53
(I)	H-FIELD MOUNT		-50	NC (Note 1)	
(I)	WOW (GND/OPEN)		-51	(22)	A/C WOW SWITCH
(I)	WOW (OPEN/GND)		-52	NC	
(I)	PROGRAM PIN COMMON		-53	(22)	141J1-40, 141J1-49, (Note 1)
	SPARE		-54		
(P)	+28 V DC POWER RETURN		-55	(20)	A/C +28 V DC RETURN
	SPARE		-56		
(P)	+28 V DC POWER		141J1-57	(20)	A/C +28 V DC

NOTES:

1. Wiring shown is for top-mounted H-field antenna. 141J1-50 is to be connected to 141J1-53 for bottom-mounted antenna configuration.

2. Wires terminating at pins 141J1-1, 141J1-10, and 141J1-36 are twisted triple.

3. Antenna connections, LRU No. 142, shown in parenthesis refer to installations using the AT-803 only.

Interconnect Information
Table 501 (cont)

ANTENNA/COUPLER UNIT
(AT-800 or AT-801)
(Single System)

IOB P	Function		Connector Pin	Connects To
(I)	BITE	(H)	142J1-1 (22)	141J1-10
(O)	ACU TYPE		-2 (22)	141J1-36
(I)	BITE	(L)	-3 (22)	141J1-1
(I)	BITE SHIELD		-4	
(I)	-12 VDC		-5 (22)	141J1-19
(I)	POWER COMMON		-6 (22)	141J1-9
(I)	+12 VDC		-7 (22)	141J1-18
(I)	POWER SHIELD		-8	
(O)	LOOP A	(H)	-9 (22)	141J1-3
(O)	LOOP A	(L)	-10 (22)	141J1-4
(I)	LOOP A SHIELD		-11	
(O)	LOOP B	(H)	-12 (22)	141J1-6
(O)	LOOP B	(L)	-13 (22)	141J1-7
(I)	LOOP B SHIELD		-14	
(I)	OUTER SHIELD		142J1-15	

ANTENNA/COUPLER UNIT
(AT-803)
(Single System)

IOB P	Function		Connector Pin	Connects To
(O)	LOOP A	(L)	142J1-A (22)	141J1-4
(I)	+12 VDC		-B (22)	141J1-18
(I)	-12 VDC		-C (22)	141J1-19
(I)	POWER COMMON		-D (22)	141J1-9
(I)	POWER SHIELD		-J	
(O)	BITE	(H)	-E (22)	141J1-10
(O)	BITE	(L)	-F (22)	141J1-1
	SPARE		-G	
(O)	LOOP A	(H)	-H (22)	141J1-3
	SPARE		142J1-K	

Interconnect Information
Table 501 (cont)

ANTENNA/COUPLER AMPLIFIER
(AT-802)
(Single System)

IOB P	Function		Connector Pin	Connects To
(I)	BITE	(H)	151J1-1 (22)	141J1-10
(O)	ACU TYPE		-2 (22)	141J1-36
(I)	BITE	(L)	-3 (22)	141J1-1
(I)	BITE SHIELD		-4	
(I)	-12 VDC		-5 (22)	141J1-19
(I)	POWER COMMON		-6 (22)	141J1-9
(I)	+12 VDC		-7 (22)	141J1-18
(I)	POWER SHIELD		-8	
(O)	LOOP A	(H)	-9 (22)	141J1-3
(O)	LOOP A	(L)	-10 (22)	141J1-4
(I)	LOOP A SHIELD		-11	
(O)	LOOP B	(H)	-12 (22)	141J1-6
(O)	LOOP B	(L)	-13 (22)	141J1-7
(I)	LOOP B SHIELD		-14	
(I)	OUTER SHIELD		151J1-15	

Interconnect Information
Table 501 (cont)

1.7 Interconnect Information - Dual System

Interconnect data for a dual VLF/Omega system installation follows. Complete information is provided for the RPU and antenna. Modifications to the baseline G-IV system are also included. The RPU's may be connected to any of the three available LTS input ports of the Navigation Computer. Tables I-5 and I-6 provide VLF/Omega configuration information for each of the FMS LTS input ports.

Interconnect Information
Table 501 (cont)

NAVIGATION COMPUTER NO. 1
(Dual System)

IOB P	Function		Connector Pin		Connects To
(B)	ARINC 429 RCVR -	(H)	121J1A-23	(22)	TABLES I-5, I-6
(B)	LTS #2	(L)	-24	(22)	TABLES I-5, I-6
(B)	ARINC 429 RCVR -	(H)	-26	(22)	TABLES I-5, I-6
(B)	LTS #1	(L)	-27	(22)	TABLES I-5, I-6
(B)	ARINC 429 XMTR -	(H)	-45	(22)	C141J1-25
(B)	GEN BUS SECONDARY	(L)	-46	(22)	C141J1-26
		SHIELD GND			
(I)	HIGH/LOW* SPEED BUS-LTS #1		-47	(22)	TABLES I-5, I-6
(I)	HIGH/LOW* SPEED BUS-LTS #2		-48	(22)	TABLES I-5, I-6
(I)	HIGH/LOW* SPEED BUS-LTS #3		-49	(22)	TABLES I-5, I-6
(B)	ARINC 429 XMTR -	(H)	-50	(22)	141J1-27
(B)	GEN BUS PRIMARY	(L)	121J1A-51	(22)	141J1-28
		SHIELD GND			
(B)	ARINC 429 RCVR -	(H)	121J1B-57	(22)	TABLES I-5, I-6
(B)	LTS #3	(L)	-58	(22)	TABLES I-5, I-6
(I)	LTS #1 NUMBER BIT #1		-59	(22)	TABLES I-5, I-6
(I)	LTS #1 NUMBER BIT #2		-60	(22)	TABLES I-5, I-6
(I)	LTS #2 NUMBER BIT #1		-61	(22)	TABLES I-5, I-6
(I)	LTS #2 NUMBER BIT #2		-62	(22)	TABLES I-5, I-6
(I)	LTS #3 NUMBER BIT #1		-63	(22)	TABLES I-5, I-6
(I)	LTS #3 NUMBER BIT #2		-64	(22)	TABLES I-5, I-6
(I)	LTS #1 CONFIG		-74	(22)	TABLES I-5, I-6
(I)	LTS #1 CONFIG		-75	(22)	TABLES I-5, I-6
(I)	LTS #1 CONFIG		-76	(22)	TABLES I-5, I-6
(I)	LTS #2 CONFIG		-77	(22)	TABLES I-5, I-6
(I)	LTS #2 CONFIG		-78	(22)	TABLES I-5, I-6
(I)	LTS #2 CONFIG		-79	(22)	TABLES I-5, I-6
(I)	LTS #3 CONFIG		-89	(22)	TABLES I-5, I-6
(I)	LTS #3 CONFIG		-90	(22)	TABLES I-5, I-6
(I)	LTS #3 CONFIG		121J1B-91	(22)	TABLES I-5, I-6

Interconnect Information
Table 501 (cont)

NAVIGATION COMPUTER NO. 2
(Dual System)

IOB P	Function		Connector Pin		Connects To
(B)	ARINC 429 RCVR -	(H)	C121J1A-23	(22)	TABLES I-5, I-6
(B)	LTS #2	(L)	-24	(22)	TABLES I-5, I-6
(B)	ARINC 429 RCVR -	(H)	-25	(22)	TABLES I-5, I-6
(B)	LTS #1	(L)	-26	(22)	TABLES I-5, I-6
(B)	ARINC 429 XMTR -	(H)	-45	(22)	141J1-25
(B)	GEN BUS SECONDARY	(L)	-46	(22)	141J1-26
	SHIELD GND				
(I)	HIGH/LOW* SPEED BUS-LTS #1		-47	(22)	TABLES I-5, I-6
(I)	HIGH/LOW* SPEED BUS-LTS #2		-48	(22)	TABLES I-5, I-6
(I)	HIGH/LOW* SPEED BUS-LTS #3		-49	(22)	TABLES I-5, I-6
(B)	ARINC 429 XMTR -	(H)	-50	(22)	C141J1-27
(B)	GEN BUS PRIMARY	(L)	C121J1A-51	(22)	C141J1-28
	SHIELD GND				
(B)	ARINC 429 RCVR -	(H)	C121J1B-57	(22)	TABLES I-5, I-6
(B)	LTS #3	(L)	-58	(22)	TABLES I-5, I-6
(I)	LTS #1 NUMBER BIT #1		-59	(22)	TABLES I-5, I-6
(I)	LTS #1 NUMBER BIT #2		-60	(22)	TABLES I-5, I-6
(I)	LTS #2 NUMBER BIT #1		-61	(22)	TABLES I-5, I-6
(I)	LTS #2 NUMBER BIT #2		-62	(22)	TABLES I-5, I-6
(I)	LTS #3 NUMBER BIT #1		-63	(22)	TABLES I-5, I-6
(I)	LTS #3 NUMBER BIT #2		-64	(22)	TABLES I-5, I-6
(I)	LTS #1 CONFIG		-74	(22)	TABLES I-5, I-6
(I)	LTS #1 CONFIG		-75	(22)	TABLES I-5, I-6
(I)	LTS #1 CONFIG		-76	(22)	TABLES I-5, I-6
(I)	LTS #2 CONFIG		-77	(22)	TABLES I-5, I-6
(I)	LTS #2 CONFIG		-78	(22)	TABLES I-5, I-6
(I)	LTS #2 CONFIG		-79	(22)	TABLES I-5, I-6
(I)	LTS #3 CONFIG		-89	(22)	TABLES I-5, I-6
(I)	LTS #3 CONFIG		-90	(22)	TABLES I-5, I-6
(I)	LTS #3 CONFIG		C121J1B-91	(22)	TABLES I-5, I-6

Interconnect Information
Table 501 (cont)

RECEIVER PROCESSOR UNIT NO. 1
(Dual System)

IOB P	Function		Connector Pin	Connects To
(O)	BITE	(L)	141J1-1 (22)	142/151J1-3, (142J1-F), (Note 2)
(O)	BITE	(H)	-10 (22)	142/151J1-1, (142J1-E), (Note 2)
(I)	ACU TYPE		-36 ------NC	
(I)	BITE SHIELD		-20	
(I)	DATA FROM CDU	(L)	-2 ------NC	
(I)	LOOP A	(H)	-3 (22)	142/151J1-9, (142J1-H)
(I)	LOOP A	(L)	-4 (22)	142/151J1-10, (142J1-A)
(I)	LOOP A SHIELD		-13	
(I)	DATA FROM CDU	(H)	-5 ------NC	
(I)	LOOP B	(H)	-6 (22)	142/151J1-12
(I)	LOOP B	(L)	-7 (22)	142/151J1-13
(I)	LOOP B SHIELD		-16	
(O)	POWER COMMON		-9 (22)	142/151J1-6, (142J1-D)
(O)	+12 VDC		-18 (22)	142/151J1-7, (142J1-B)
(O)	-12 VDC		-19 (22)	142/151J1-5, (142J1-C)
(I)	+/- 12 VDC PWR SHIELD		-8	
(I)	OUTER SHIELD		-31	
(I)	TAS	(Z)	-11 ------NC	
(I)	TAS	(X)	-12 ------NC	
(B)	ARINC 429 XMTR -	(H)	-14 (22)	TABLE I-5
(B)	PRIMARY DATA	(L)	-15 (22)	TABLE I-5
(I)	SHIELD COMMON		-44	
(I)	TAS	(Y)	-17 ------NC	
(I)	TAS (SIGNAL)		-21 ------NC	
(I)	TAS VALID		-22 ------NC	
(B)	ARINC 429 XMTR -	(H)	-23 (22)	TABLE I-5
(B)	SECONDARY DATA	(L)	-24 (22)	TABLE I-5
(I)	SHIELD COMMON		-44	
(B)	ARINC 429 RCVR -	(H)	-25 (22)	C121J1A-45
(B)	SECONDARY DATA	(L)	-26 (22)	C121J1A-46
(B)	ARINC 429 RCVR -	(H)	141J1-27 (22)	121J1A-50

Interconnect Information
Table 501 (cont)

RECEIVER PROCESSOR UNIT NO. 1
(Dual System)

IOB P	Function		Connector Pin	Connects To
(B)	PRIMARY DATA	(L)	141J1-28 (22)	121J1A-51
(I)	SDI BIT 0		-29 ------NC	
(I)	SDI BIT 1		-30 ------NC	
(O)	DATA TO CDU	(L)	-32 ------NC	
(O)	DATA TO CDU	(H)	-33 ------NC	
(I)	TAS REF		-34 ------NC	
(O)	FSK DATA	(H)	-35 ------NC	
(I)	TAS 400HZ REF	(H)	-37 ------NC	
(I)	TAS 400HZ REF	(L)	-38 ------NC	
(I)	COMPASS VALID		-39 ------NC	
(I)	SECONDARY ON/OFF CONTROL		-40 (22)	SIG GND
(I)	HDG 400HZ REF	(H)	-41 ------NC	
(I)	HDG 400HZ REF	(L)	-42 ------NC	
(O)	FSK DATA	(L)	-43 ------NC	
(I)	HDG	(Z)	-45 ------NC	
(I)	HDG	(Y)	-46 ------NC	
(I)	HDG	(X)	-47 ------NC	
(I)	RANGE/HYPERBOLIC MODE(OPEN/GND)		-48 ------NC	
(I)	PRIMARY ON/OFF CONTRO		-49 (22)	SIG GND
(I)	H-FIELD MOUNT		-50 ------NC	(Note 1)
(I)	WOW (GND/OPEN)		-51 (22)	A/C WOW SWITCH
(I)	WOW (OPEN/GND)		-52 ------NC	
(I)	PROGRAM PIN COMMON		-53 ------NC	
	SPARE		-54	
(P)	+28 VDC POWER RETURN		-55 (20)	A/C +28 V DC RETURN
	SPARE		-56	
(P)	+28 VDC POWER		141J1-57 (20)	A/C +28 V DC

NOTES:

1. Wiring shown is for top-mounted H-field antenna. 141J1-50 is to be connected to 141J1-53 for bottom-mounted antenna configuration.

2. Wires terminating at pins 141J1-1, 141J1-10, and 141J1-36 are twisted triple.

3. Antenna connections, LRU No. 142, shown in parenthesis refer to installations using the AT-803 only.

Interconnect Information
Table 501 (cont)

RECEIVER PROCESSOR UNIT NO. 2
(Dual System)

IOB P	Function		Connector Pin	Connects To
(O)	BITE	(L)	C141J1-1 (22)	C142/C151J1-3, (C142J1-F), (Note 2)
(O)	BITE	(H)	-10 (22)	142/151J1-1, (142J1-E), (Note 2)
(I)	ACU TYPE		-36 ------NC	
(I)	BITE SHIELD		-20	
(I)	DATA FROM CDU	(L)	-2 ------NC	
(I)	LOOP A	(H)	-3 (22)	C142/C151J1-9, (C142J1-H)
(I)	LOOP A	(L)	-4 (22)	C142/C151J1-10, (C142J1-A)
(I)	LOOP A SHIELD		-13	
(I)	DATA FROM CDU	(H)	-5 ------NC	
(I)	LOOP B	(H)	-6 (22)	C142/C151J1-12
(I)	LOOP B	(L)	-7 (22)	C142/C151J1-13
(I)	LOOP B SHIELD		-16	
(O)	POWER COMMON		-9 (22)	C142/C151J1-6, (C142J1-D)
(O)	+12 VDC		-18 (22)	142/151J1-7, (142J1-B)
(O)	-12 VDC		-19 (22)	142/151J1-5, (142J1-C)
(I)	+/- 12 VDC PWR SHIELD		-8	
(I)	OUTER SHIELD		-31	
(I)	TAS	(Z)	-11 ------NC	
(I)	TAS	(X)	-12 ------NC	
(B)	ARINC 429 XMTR -	(H)	-14 (22)	TABLE I-6
(B)	PRIMARY DATA	(L)	-15 (22)	TABLE I-6
(I)	SHIELD COMMON		-44	
(I)	TAS	(Y)	-17 ------NC	
(I)	TAS (SIGNAL)		-21 ------NC	
(I)	TAS VALID		-22 ------NC	
(B)	ARINC 429 XMTR -	(H)	-23 (22)	TABLE I-6
(B)	SECONDARY DATA	(L)	-24 (22)	TABLE I-6
(I)	SHIELD COMMON		-44	
(B)	ARINC 429 RCVR -	(H)	-25 (22)	121J1A-45
(B)	SECONDARY DATA	(L)	C141J1-26 (22)	121J1A-46

Interconnect Information
Table 501 (cont)

RECEIVER PROCESSOR UNIT NO. 2
(Dual System)

IOB P	Function		Connector Pin	Connects To
(B)	ARINC 429 RCVR -	(H)	C141J1-27 (22)	C121J1A-50
(B)	PRIMARY DATA	(L)	-28 (22)	C121J1A-51
(I)	SDI BIT 0		-29 ------NC	
(I)	SDI BIT 1		-30 ------NC	
(O)	DATA TO CDU	(L)	-32 ------NC	
(O)	DATA TO CDU	(H)	-33 ------NC	
(I)	TAS REF		-34 ------NC	
(O)	FSK DATA	(H)	-35 ------NC	
(I)	TAS 400HZ REF	(H)	-37 ------NC	
(I)	TAS 400HZ REF	(L)	-38 ------NC	
(I)	COMPASS VALID		-39 ------NC	
(I)	SECONDARY ON/OFF CONTROL		-40 (22)	SIG GND
(I)	HDG 400HZ REF	(H)	-41 ------NC	
(I)	HDG 400HZ REF	(L)	-42 ------NC	
(O)	FSK DATA	(L)	-43 ------NC	
(I)	HDG	(Z)	-45 ------NC	
(I)	HDG	(Y)	-46 ------NC	
(I)	HDG	(X)	-47 ------NC	
(I)	RANGE/HYPERBOLIC MODE(OPEN/GND)		-48 ------NC	
(I)	PRIMARY ON/OFF CONTROL		-49 (22)	SIG GND
(I)	H-FIELD MOUNT		-50 ------NC (Note 1)	
(I)	WOW (GND/OPEN)		-51 (22)	A/C WOW SWITCH
(I)	WOW (OPEN/GND)		-52 ------NC	
(I)	PROGRAM PIN COMMON		-53 ------NC	
	SPARE		-54	
(P)	+28 VDC POWER RETURN		-55 (20)	A/C +28 V DC RETURN
	SPARE		-56	
(P)	+28 VDC POWER		C141J1-57 (20)	A/C +28 V DC

NOTES:
1. Wiring shown is for top-mounted H-field antenna. C141J1-50 is to be connected to C141J1-53 for bottom-mounted antenna configuration.

2. Wires terminating at pins C141J1-1, C141J1-10, and C141J1-36 are twisted triple.

3. Antenna connections, LRU No. C142, shown in parenthesis refer to installations using the AT-803 only.

Interconnect Information
Table 501 (cont)

ANTENNA/COUPLER UNIT NO. 1
(AT-800 or AT-801)
(Dual System)

IOB P	Function		Connector Pin		Connects To
(I)	BITE	(H)	142J1-1	(22)	141J1-10
(O)	ACU TYPE		-2	NC	
(I)	BITE	(L)	-3	(22)	141J1-1
(I)	BITE SHIELD		-4		
(I)	-12 VDC		-5	(22)	141J1-19
(I)	POWER COMMON		-6	(22)	141J1-9
(I)	+12 VDC		-7	(22)	141J1-18
(I)	POWER SHIELD		-8		
(O)	LOOP A	(H)	-9	(22)	141J1-3
(O)	LOOP A	(L)	-10	(22)	141J1-4
(I)	LOOP A SHIELD		-11		
(O)	LOOP B	(H)	-12	(22)	141J1-6
(O)	LOOP B	(L)	-13	(22)	141J1-7
(I)	LOOP B SHIELD		-14		
(I)	OUTER SHIELD		142J1-15		

ANTENNA/COUPLER UNIT NO. 1
(AT-803)
(Dual System)

IOB P	Function		Connector Pin		Connects To
(O)	LOOP A	(L)	142J1-A	(22)	141J1-4
(I)	+12 VDC		-B	(22)	141J1-18
(I)	-12 VDC		-C	(22)	141J1-19
(I)	POWER COMMON		-D	(22)	141J1-9
(I)	POWER SHIELD		-J		
(O)	BITE	(H)	-E	(22)	141J1-10
(O)	BITE	(L)	-F	(22)	141J1-1
	SPARE		-G		
(O)	LOOP A	(H)	-H	(22)	141J1-3
	SPARE		142J1-K		

Interconnect Information
Table 501 (cont)

ANTENNA COUPLER AMPLIFIER NO. 1
(AT-802)
(Dual System)

IOB P	Function		Connector Pin		Connects To
(I)	BITE	(H)	51J1-1	(22)	141J1-10
(O)	ACU TYPE		-2	(22)	141J1-36
(I)	BITE	(L)	-3	(22)	141J1-1
(I)	BITE SHIELD		-4		
(I)	-12 VDC		-5	(22)	141J1-19
(I)	POWER COMMON		-6	(22)	141J1-9
(I)	+12 VDC		-7	(22)	141J1-18
(I)	POWER SHIELD		-8		
(O)	LOOP A	(H)	-9	(22)	141J1-3
(O)	LOOP A	(L)	-10	(22)	141J1-4
(I)	LOOP A SHIELD		-11		
(O)	LOOP B	(H)	-12	(22)	141J1-6
(O)	LOOP B	(L)	-13	(22)	141J1-7
(I)	LOOP B SHIELD		-14		
(I)	OUTER SHIELD		151J1-15		

Interconnect Information
Table 501 (cont)

ANTENNA/COUPLER UNIT NO. 2
(AT-800 or AT-801)
(Dual System)

IOB P	Function		Connector Pin		Connects To
(I)	BITE	(H)	C142J1-1	(22)	C141J1-10
(O)	ACU TYPE		-2	NC	
(I)	BITE	(L)	-3	(22)	C141J1-1
(I)	BITE SHIELD		-4		
(I)	-12 VDC		-5	(22)	C141J1-19
(I)	POWER COMMON		-6	(22)	C141J1-9
(I)	+12 VDC		-7	(22)	C141J1-18
(I)	POWER SHIELD		-8		
(O)	LOOP A	(H)	-9	(22)	C141J1-3
(O)	LOOP A	(L)	-10	(22)	C141J1-4
(I)	LOOP A SHIELD		-11		
(O)	LOOP B	(H)	-12	(22)	C141J1-6
(O)	LOOP B	(L)	-13	(22)	C141J1-7
(I)	LOOP B SHIELD		-14		
(I)	OUTER SHIELD		C142J1-15		

ANTENNA/COUPLER UNIT NO. 2
(AT-803)
(Dual System)

IOB P	Function		Connector Pin		Connects To
(O)	LOOP A	(L)	C142J1-A	(22)	C141J1-4
(I)	+12 VDC		-B	(22)	C141J1-18
(I)	-12 VDC		-C	(22)	C141J1-19
(I)	POWER COMMON		-D	(22)	C141J1-9
(I)	POWER SHIELD		-J		
(O)	BITE	(H)	-E	(22)	C141J1-10
(O)	BITE	(L)	-F	(22)	C141J1-1
	SPARE		-G		
(O)	LOOP A	(H)	-H	(22)	C141J1-3
	SPARE		C142J1-K		

Interconnect Information
Table 501 (cont)

ANTENNA COUPLER AMPLIFIER NO. 2
(AT-802)
(Dual System)

IOB P	Function		Connector Pin		Connects To
(I)	BITE	(H)	C151J1-1	(22)	C141J1-10
(O)	ACU TYPE		-2	(22)	C141J1-36
(I)	BITE	(L)	-3	(22)	C141J1-1
(I)	BITE SHIELD		-4		
(I)	-12 VDC		-5	(22)	C141J1-19
(I)	POWER COMMON		-6	(22)	C141J1-9
(I)	+12 VDC		-7	(22)	C141J1-18
(I)	POWER SHIELD		-8		
(O)	LOOP A	(H)	-9	(22)	C141J1-3
(O)	LOOP A	(L)	-10	(22)	C141J1-4
(I)	LOOP A SHIELD		-11		
(O)	LOOP B	(H)	-12	(22)	C141J1-6
(O)	LOOP B	(L)	-13	(22)	C141J1-7
(I)	LOOP B SHIELD		-14		
(I)	OUTER SHIELD		C151J1-15		

Interconnect Information
Table 501 (cont)

Table I-4
NZ Configuration for Single VLF/Omega Sensor

RPU CONNECTED TO:	NZ-800 INPUT PORT	LTS CONFIGURATION			BUS SPEED	LTS NUMBER	
LTS NO. 1	J1A-26(H) J1A-27(L)	J1B-74 OPEN	J1B-75 GND	J1B-76 OPEN	J1A-47 OPEN	J1B-59 OPEN	J1B-60 OPEN
LTS NO. 2	J1A-23(H) J1A-24(L)	J1B-77 OPEN	J1B-78 GND	J1B-79 OPEN	J1A-48 OPEN	J1B-61 OPEN	J1B-62 OPEN
LTS NO. 3	J1B-57(H) J1B-58(L)	J1B-89 OPEN	J1B-90 GND	J1B-91 OPEN	J1A-49 OPEN	J1B-63 OPEN	J1B-64 OPEN

Interconnect Information
Table 501 (cont)

Table I-5
NZ CONFIGURATION FOR NO. 1 VLF/OMEGA SENSOR
(DUAL INSTALLATION)

RPU NO. 1 CONNECTED TO:	NZ-800 INPUT PORT	LTS CONFIGURATION			BUS SPEED	LTS NUMBER	
LTS NO. 1	121J1A-26(H) 121J1A-27(L)	J1B-74 OPEN	J1B-75 GND	J1B-76 OPEN	J1A-47 OPEN	J1B-59 OPEN	J1B-60 GND
	C121J1A-26(H) C121J1A-27(L)	J1B-74 OPEN	J1B-75 GND	J1B-76 OPEN	J1A-47 OPEN	J1B-59 GND	J1B-60 OPEN
LTS NO. 2	121J1A-23(H) 121J1A-24(L)	J1B-77 OPEN	J1B-78 GND	J1B-79 OPEN	J1A-48 OPEN	J1B-61 OPEN	J1B-62 GND
	C121J1A-23(H) C121J1A-24(L)	J1B-77 OPEN	J1B-78 GND	J1B-79 OPEN	J1A-48 OPEN	J1B-61 GND	J1B-62 OPEN
LTS NO. 3	121J1B-57(H) 121J1B-58(L)	J1B-89 OPEN	J1B-90 GND	J1B-91 OPEN	J1A-49 OPEN	J1B-63 OPEN	J1B-64 GND
	C121J1B-57(H) C121J1B-58(L)	J1B-89 OPEN	J1B-90 GND	J1B-91 OPEN	J1A-49 OPEN	J1B-63 GND	J1B-64 OPEN

Interconnect Information
Table 501 (cont)

Table I-6

NZ CONFIGURATION FOR NO. 2 VLF/OMEGA SENSOR
(DUAL INSTALLATION)

RPU NO. 2 CONNECTED TO:	NZ-800 INPUT PORT	LTS CONFIGURATION			BUS SPEED	LTS NUMBER	
LTS NO. 1	121J1A-26(H) 121J1A-27(L)	J1B-74 OPEN	J1B-75 GND	J1B-76 OPEN	J1A-47 OPEN	J1B-59 GND	J1B-60 OPEN
	C121J1A-26(H) C121J1A-27(L)	J1B-74 OPEN	J1B-75 GND	J1B-76 OPEN	J1A-47 OPEN	J1B-59 OPEN	J1B-60 GND
LTS NO. 2	121J1A-23(H) 121J1A-24(L)	J1B-77 OPEN	J1B-78 GND	J1B-79 OPEN	J1A-48 OPEN	J1B-61 GND	J1B-62 OPEN
	C121J1A-23(H) C121J1A-24(L)	J1B-77 OPEN	J1B-78 GND	J1B-79 OPEN	J1A-48 OPEN	J1B-61 OPEN	J1B-62 GND
LTS NO. 3	121J1B-(H) 121J1B-(L)	J1B-89 OPEN	J1B-90 GND	J1B-91 OPEN	J1A-49 OPEN	J1B-63 GND	J1B-64 OPEN
	C121J1B-57(H) C121J1B-58(L)	J1B-89 OPEN	J1B-90 GND	J1B-91 OPEN	J1A-49 OPEN	J1B-63 OPEN	J1B-64 GND

APPENDIX K
MICROWAVE LANDING SYSTEM (MLS) INSTALLATION

APPENDIX K
MICROWAVE LANDING SYSTEM (MLS) INSTALLATION

1.0 MLS INSTALLATION

1.1 Scope

This appendix provides data for the installation of the Honeywell MLS receivers, control units, and paired DME into the G-IV aircraft. Included are MLS system mechanical mounting requirements and the electrical interconnections required to tie this system to existing G-IV avionics.

1.2 Functional Description

The ML-850 Microwave Landing System Receiver is designed for use with the C-band Time Referenced Scanning Beam (TRSB) Microwave Landing Systems conforming to revised ICAO standards of FAA 14 CFR Part 171 Subpart J dated Sep 18, 1986 or FAA-STD-022C. It is currently not compatible with European ground stations conforming to older ICAO standards which did not employ provisions for magnetic heading selection of runway centerline.

The MLS system operates on one of 200 channels between 5031.0 and 5090.7 MHz. The signal format is time multiplexed, that is, each function (azimuth, elevation, basic data, auxiliary data, and back azimuth) is transmitted sequentially on a single carrier frequency. Each function is identified by a digitally encoded preamble. The preamble is followed by TO and FRO scanning beam signals or more digital data depending on the function.

The ML-850 receiver system provides guidance to the azimuth/back azimuth and glide path flight angles selected on the control unit or automatically transmitted from the ground station. The G-IV system will be configured for front azimuth approaches only. Guidance is output from the receiver in the form of analog and/or digital deviation signals intended to drive conventional course deviation indicator displays. ILS look-alike ARINC 429 labels are provided on the digital bus allowing integration to the G-IV autopilot and display on the EFIS. The MLS receiver scales and biases these ARINC 429 labels to the corresponding ILS mV per dots of deviation.

1.2 Functional Description (continued)

Approach azimuth angles may be selected from the runway centerline out to the limits of the proportional coverage area of the ground station. This angle is entered as the approach magnetic heading. Glidepath angles may be selected from the minimum safe angle for the desired runway heading (as transmitted from the ground station) up to the maximum allowable glidepath angle of 4° for the G-IV.

Deviation from the selected angle is computed and scaled in the receiver.

Actual aircraft position angles relative to the centerline of the ground transmitter are computed by timing the occurrence of the swept scanning beams. The time interval between the centers of the TO and FRO scanning beams is proportional to the aircraft position angle.

The receiver computes the centers of the received TO and FRO scans, calculates the aircraft position angle for each scan, and subtracts the selected angle to derive deviations. Each scan is validated according to RTCA DO-177 criteria and confidence counters are maintained to drive flag warnings.

The scanning beam envelope is filtered using a 26 kHz low pass filter. The angle data is filtered with a 10 radian/second low pass filter prior to calculating the deviations. The deviations are scaled prior to output. Azimuth deviations are scaled as a function of runway length. Glidepath deviations are scaled as a function of the selected glidepath angle.

The receiver uses basic data from the ground to determine runway length for azimuth scaling, proportional coverage limits, minimum glidepath, runway heading and station identification.

The receiver also processes and outputs auxiliary data which pertains to the ground station for use by other systems such as EFIS, AFCS, FMS, or RNAV equipment.

All digital data is received from the ground station in the form of differential phase shift keyed (DPSK) microwave signals. These are converted, reformatted and output from the receiver on ARINC 429 and Honeywell RCB digital buses along with the derived angles and deviations.

Interconnect Information
Table 501 (cont)

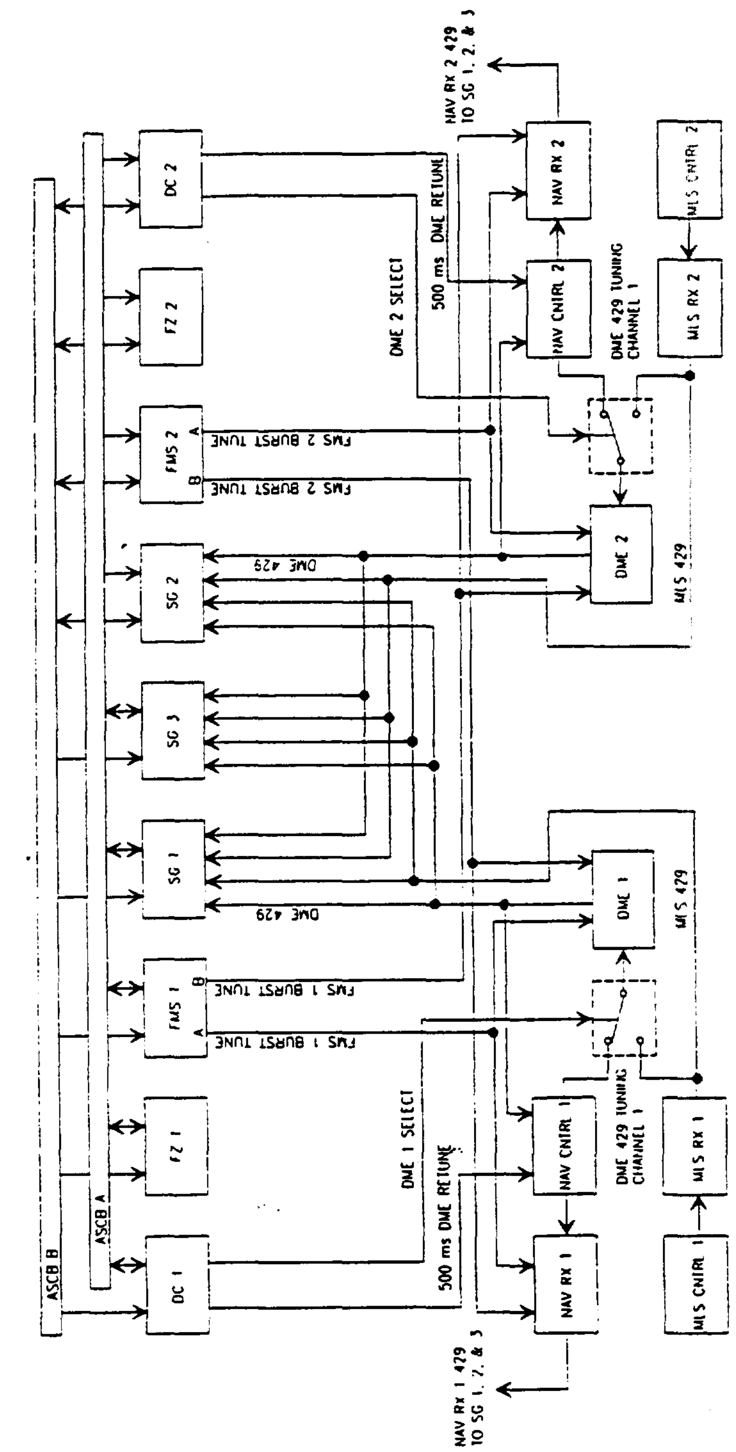
A Morse code station identifier is decoded by the receiver and output as an audio signal, a discrete signal and digitally on both buses.

The MLS receiver transmits ARINC 429 labels for the purpose of flight guidance, crew display, and internal monitoring. Once these labels are transmitted by the MLS receiver, they are switched into the SG by the display controller (DC) through an external relay. The DC energizes this relay based on flight crew selection of MLS as the active or preview nav source.

The MLS system in the G-IV is configured as a dual receiver and dual control head system. Each MLS receiver tunes a DME. MLS receiver 1 tunes DME 1, MLS receiver 2 tunes DME 2. This DME information is then sent to the symbol generators with the paired MLS receiver as selected by the display controller. See Figure 1.

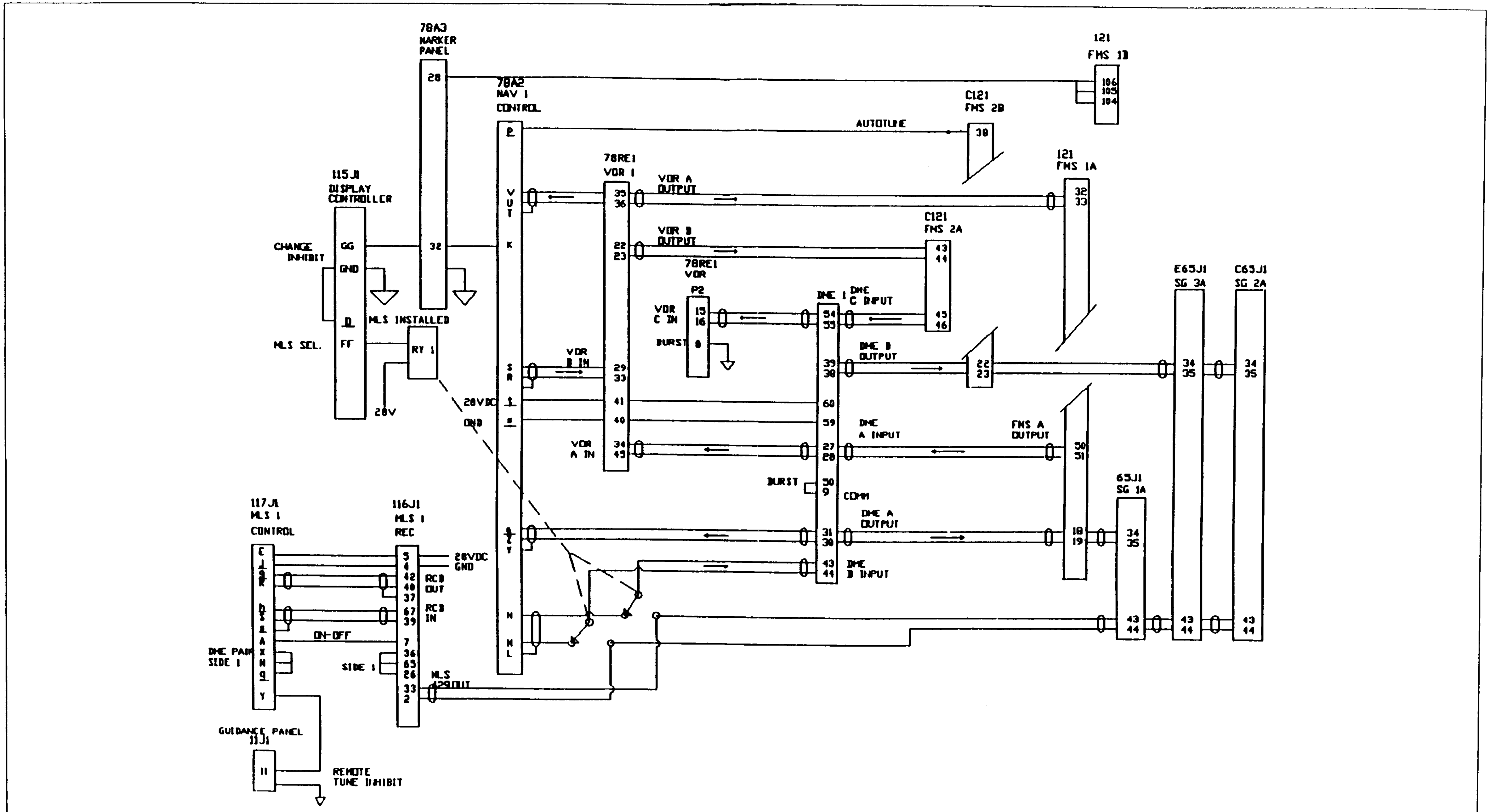
Refer to Collins system description and installation manual 523-0774155 for complete information on the Collins DME 442.

Interconnect Information
Table 501 (cont)



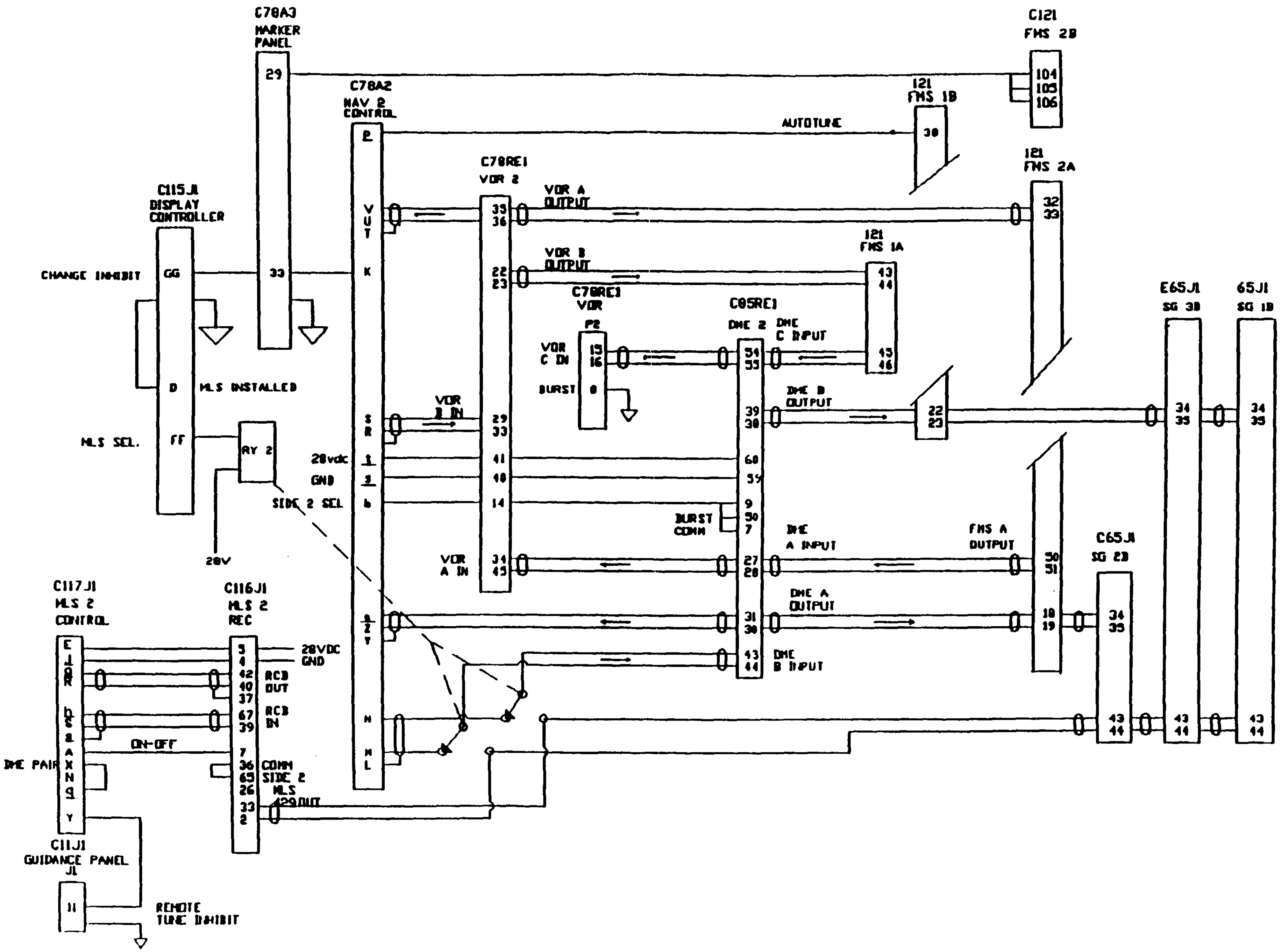
MLS in G-IV System Block Diagram
Figure K-1

Interconnect Information
Table 501 (cont)



MLS System Schematic - Typical (Pilot Side)
Figure K-2

Interconnect Information
Table 501 (cont)



MLS System Schematic - Typical (Copilot Side)
Figure 3

Interconnect Information
Table 501 (cont)

1.3 Mechanical Installation Information

MLS Receiver

The MLS receiver is mounted in an MT-853 mounting tray, P/N 7510664-901. Forced air cooling is not required for the MLS receiver.

The MLS receiver may be located outside the pressure vessel, although this installation places the MLS receivers in the avionics rack located in the pressure vessel.

Refer to MLS System Description and Installation Manual, Honeywell Publication A15-3800-02, for detailed installation information.

Antennas

Antennas are located in the Gulfstream III standard antenna locations for MLS. These locations show acceptable performance on the Gulfstream IV. They are at station 46.75, 12 inches either side of centerline on the top of the aircraft for the two front antennas, and centered about station 595.0, on centerline, 12 inches apart for the two aft antennas. The antennas shall be placed no closer than 5 inches to each other. The aircraft skin in contact with the antennas shall be free of insulating materials (paint) and shall be treated with an electrically conductive corrosion protection.

RF Cables

Rear antenna shading and insufficient coverage by ground transmitters may cause difficulty in complete MLS coverage at ±60° from center azimuth (required certification coverage). The most dramatic improvement in MLS system performance can be obtained by insuring the RF path between the MLS receiver and the antennas is of the lowest loss possible. An improvement of only 3 dBm of rf path loss doubles signal power at the receiver. Although the MLS receiver allows up to 11 dBm of rf path loss, flight tests on the G-IV have shown these values to be unacceptable for rear antenna coverage. Therefore, the following rf cables are recommended:

1. Electronic Cable Specialists cable P/N 310801: the RF loss on this cable is 9.3 dBm/100 ft at 5 GHz of cable run. Bend radius is 2". Weight is 15 lbs\100ft. The mating connector is a crimp on type and is P/N CTS022. The crimping tool is P/N 225020/5-1 with a die number Y-149. These cables may be supplied with the connectors attached and complete loss and VSWR documentation is provided with each cable. In this instance, test cables should be installed to determine correct cable length. Although this presents a more challenging installation problem, the end result is a superior MLS system.

2. PIC Wire and Cable:

   P/N S22089: The RF loss on this cable is 9.5 dBm/100 ft of cable run at 5 GHz. Bend radius is 2.5". Weight is 20 lbs/100 ft. Mating connectors are TBD.

   Alternate for front antenna cables:

   P/N T556124: The RF loss on this cable is 12.8 dBm/100 ft of cable run at 5 Ghz. Bend radius is 2.0". Weight is 15 lbs/100 ft. Mating connector is P/N 1-225554-1 TNC right angle, P/N 1-225550-3 TNC straight.

If possible, bulkhead connectors should be avoided - especially those in an environment exposed to water, salt, fuels, hydraulic and deicing fluids, etc.. These agents cause rf connections to deteriorate with time and exposure level.

Interconnect Information
Table 501 (cont)

1.4 Environmental Qualifications

The MLS receiver has been tested to the following DO-160B environmental qualifications.

DO-160B Section	Environment	MLS Receiver
4	Temperature and Altitude	CAT A2/E1
5	Temperature Variation	CAT A
6	Humidity	CAT A
7	Shock (Operate and Sustained)	YES
8	Vibration	CAT J, M, L, Y
9	Explosion Proofness	CAT E1
10	Waterproofness	CAT X
11	Fluid Susceptibility	CAT X
12	Sand and Dust	CAT X
13	Fungus	CAT X
14	Salt Spray	CAT X
15	Magnetic Effect	CAT Z
16	Power Input	CAT B, Z
17	Conducted Voltage Transient	CAT A
18	Audio Frequency Conducted Susceptibility	CAT Z

Interconnect Information
Table 501 (cont)

DO-160B Section	Environment	MLS Receiver
19	Induced Signal Susceptibility	CAT Z
20	Radio Frequency Susceptibility (Radiated and Conducted)	CAT Z
21	Spurious Radio Frequency Emission	CAT Z
22	Lightning	
	Signal and Power Cables	CAT L
	Antenna Cables	CAT L

Interconnect Information
Table 501 (cont)

The MLS control head has been tested to the following DO-160B environmental qualifications.

DO-160B Section	Environment	MLS Receiver
4	Temperature and Altitude	CAT A2/C1
5	Temperature Variation	CAT A
6	Humidity	CAT A
7	Shock (Operate and Sustained)	YES
8	Vibration	CAT K, P, and S
9	Explosion Proofness	CAT E1
10	Waterproofness	CAT X
11	Fluid Susceptibility	CAT X
12	Sand and Dust	CAT X
13	Fungus	CAT X
14	Salt Spray	CAT X
15	Magnetic Effect	CAT Z
16	Power Input	CAT B, Z
17	Conducted Voltage Transient	CAT A
18	Audio Frequency Conducted Susceptibility	CAT Z

Interconnect Information
Table 501 (cont)

DO-160B Section	Environment	MLS Receiver
19	Induced Signal Susceptibility	CAT Z
20	Radio Frequency Susceptibility (Radiated and Conducted)	CAT Z
21	Spurious Radio Frequency Emission	CAT Z
22	Lightning	
	Signal and Power Cables	CAT L

Interconnect Information
Table 501 (cont)

Table K-1
MLS Equipment List

MLS Receiver

Interconnect Information
Table 501 (cont)

Table K-1 (continued)
MLS Equipment List

MLS Control Head

Interconnect Information
Table 501 (cont)

Table K-1 (continued)
MLS Equipment List

MLS Front Antenna

Interconnect Information
Table 501 (cont)

Table K-1 (continued)
MLS Equipment List

MLS Rear Antenna

1.5 Power and Weight Specification

Power for the MLS receiver and control head is taken from the aircraft 28 Vdc power bus. A single circuit breaker switches power to the MLS receiver. The MLS receiver uses 15.5 VA maximum of power. The MLS control head uses 4.0 VA maximum of power.

The maximum weight of the MLS receiver is 2.22 kg (4.9 pounds). The maximum weight of the MLS control head is 567 g (1.25 pounds).

1.6 Additional Interface Requirements

New part number display controllers, symbol generators, and fault warning computers must be installed when the aircraft is updated to operate with MLS. The required part numbers are:

Unit Number	Unit	Part Number
65/C65/E65	SG-884 Symbol Generator	7008570-904
115/C115	DC-884 Display Controller	7007540-941/-942
134/C134	FC-880 Fault Warning Computer	7007484-905

All mounting requirements specified in previous sections of this document remain the same. This appendix defines the additional requirements for the addition of the MLS function.

1.7 Interconnect Information

Interconnect information for the MLS receiver follows. Complete interconnect information is provided for the MLS receiver as well as modifications required to baseline and other retrofit equipment.

Interconnect Information
Table 501 (cont)

MLS Receiver 1 (MLZ-850)

IOB P	Function	Connector Pin	Connects To
(P)	28 VDC PWR	116J1-5 (22)	28 VDC PWR (H), 117J1-E
(P)	28 VDC PWR RET	-4 (22)	28 VDC PWR (L), 117J1-j
(O)	RCB OUT (P)	-42 (22)	117J1-g
(O)	RCB OUT (N)	-40 (22)	117J1-R
	SHIELD GND	-37 (22)	
(I)	RCB IN (P)	-67 (22)	117J1-h
(I)	RCB IN (N)	-39 (22)	117J1-S
	SHIELD GND	117J1-s (22)	
(O)	AUDIO (HI)	116J1-9 (22)	117J1-B
(O)	AUDIO (LO)	-21 (22)	117J1-t
(O)	MORSE BIT	-44 ----NC	
(I)	MLS OFF (NO)	-7 (22)	117J1-A
(O)	STRAP COMMON	-36 (22)	116J1-49, 116J1-61, 116J1-51, 116J1-65, 116J1-26
(I)	MSA0 (NO) 0.1°	-64 ----NC	
(I)	MSA1 (NO) 0.2°	-38 ----NC	
(I)	MSA2 (NO) 0.4°	-50 ----NC	
(I)	MSA3 (NO) 0.8° NOTE 1	-49 (22)	116J1-36
(I)	MSA4 (NO) 1.6°	-58 ----NC	
(I)	MSA5 (NO) 3.2°	-61 (22)	116J1-36
(I)	MSA6 (NO) 6.4°	-59 ----NC	
(I)	MSA7 (NO) 12.8°	116J1-45 ----NC	

Interconnect Information
Table 501 (cont)

MLS Receiver 1 (MLZ-850) (cont)

IOB P	Function	Connector Pin	Connects To
(I)	MSA PARITY	116J1-51 (22)-----------------	116J1-36
(I)	AFT PA (NO)	-27 ----NC	
(I)	FORE PA (NO)	-16 ----NC	
(I)	SIDE ID0 (NO)	-65 (22)-----------------	116J1-36
(I)	SIDE ID1 (NO)	-26 (22)-----------------	116J1-36
(I)	BAZ ENBL	-31 ----NC	
(O)	AZ DEV (HI LVL) (+RIGHT)	-20 ----NC	
(O)	AZ DEV COMMON	-3 ----NC	
(O)	AZ DEV (LO LVL) (+RIGHT)	-10 ----NC	
(O)	GP DEV (HI LVL) (+DOWN)	-11 ----NC	
(O)	GP DEV COMMON	-22 ----NC	
(O)	GP DEV (LO LVL) (+DOWN)	-1 ----NC	
(O)	SHIELD GND	-62 ----NC	
(O)	SHIELD GND	-63 ----NC	
(O)	AZ VAL (HI LVL) (PO)	-24 ----NC	
(O)	AZ VAL (LO LVL) (PO)	-23 ----NC	
(O)	GP VAL (HI LVL) (PO)	-14 ----NC	
(O)	GP VAL (LO LVL) (PO)	-12 ----NC	
(O)	AZ/CHAN CHANGE (PO)	-25 ----NC	
(O)	GP CHANGE (PO)	-17 ----NC	
(I)	CHANGE INHIBIT (NO)	-57 --------------------	11J1-11
(O)	BAZ ENABLED	-6 ----NC	
(B)	MLS 429 OUTPUT (A)	-33 (22)----------------	TO PILOT
(B)	MLS 429 OUTPUT (B)	-2 (22)----------------	MLS/DME SELECT RELAY
	SHIELD GND	-35 (22)--	
(O)	SEL GP > 4° (NO)	-54 ----NC	
(O)	BAZ AVAILABLE (NO)	-57 ----NC	
(I)	MLS RF IN (FORE)	116J2--------------------	118J1 See 1.3
(I)	MLS RF IN (AFT)	116J3--------------------	119J1 See 1.3

Interconnect Information
Table 501 (cont)

MLS Receiver 2 (MLZ-850)

IOB P	Function		Connector Pin		Connects To
(P)	28 VDC PWR		C116J1-5	(22)	28 VDC PWR (H), C117J1-E
(P)	28 VDC PWR RET		-4	(22)	28 VDC PWR (L), C117J1-j
(O)	RCB OUT (P)		-42	(22)	C117J1-g
(O)	RCB OUT (N)		-40	(22)	C117J1-R
		SHIELD GND	-37	(22)	
(I)	RCB IN (P)		-67	(22)	C117J1-h
(I)	RCB IN (N)		-39	(22)	C117J1-S
		SHIELD GND	-s	(22)	
(O)	AUDIO (HI)		-9	(22)	C117J1-B
(O)	AUDIO (LO)		-21	(22)	C117J1-t
(O)	MORSE BIT		-44	NC	
(I)	MLS OFF (NO)		-7	(22)	C117J1-A
(O)	STRAP COMMON		-36	(22)	C116J1-49, C116J1-61, C116J1-51, C116J1-65, C116J1-26
(I)	MSA0 (NO) 0.1°	NOTE 1	-64	NC	
(I)	MSA1 (NO) 0.2°	NOTE 1	-38	NC	
(I)	MSA2 (NO) 0.4°	NOTE 1	-50	NC	
(I)	MSA3 (NO) 0.8°	NOTE 1	-49	(22)	C116J1-36
(I)	MSA4 (NO) 1.6°	NOTE 1	-58	NC	
(I)	MSA5 (NO) 3.2°	NOTE 1	-61	(22)	C116J1-36
(I)	MSA6 (NOO 6.4°	NOTE 1	-59	NC	
(I)	MSA7 (NO) 12.8°	NOTE 1	C116J1-45	NC	

Interconnect Information
Table 501 (cont)

MLS Receiver 2 (MLZ-850) (cont)

IOB P	Function	Connector Pin	Connects To
(I)	MSA PARITY	C116J1-51 (22)-----------------	C116J1-36
(I)	AFT PA (NO)	-27 ----NC	
(I)	FORE PA (NO)	-16 ----NC	
(I)	SIDE ID0 (NO)	-65 (22)-----------------	C116J1-36
(I)	SIDE ID1 (NO)	-26 (22)-----------------	C116J1-36
(I)	BAZ ENBL	-31 ----NC	
(O)	AZ DEV (HI LVL) (+RIGHT)	-20 ----NC	
(O)	AZ DEV COMMON	-3 ----NC	
(O)	AZ DEV (LO LVL) (+RIGHT)	-10 ----NC	
(O)	GP DEV (HI LVL) (+DOWN)	-11 ----NC	
(O)	GP DEV COMMON	-22 ----NC	
(O)	GP DEV (LO LVL) (+DOWN)	-1 ----NC	
(O)	SHIELD GND	-62 ----NC	
(O)	SHIELD GND	-63 ----NC	
(O)	AZ VAL (HI LVL) (PO)	-24 ----NC	
(O)	AZ VAL (LO LVL) (PO)	-23 ----NC	
(O)	GP VAL (HI LVL) (PO)	-14 ----NC	
(O)	GP VAL (LO LVL) (PO)	-12 ----NC	
(O)	AZ/CHAN CHANGE (PO)	-25 ----NC	
(O)	GP CHANGE (PO)	-17 ----NC	
(I)	CHANGE INHIBIT (NO)	-57 --------------------	11J1-11
(O)	BAZ ENABLED	-6 ----NC	
(B)	MLS 429 OUTPUT (A)	-33 (22)----------------	TO COPILOT
(B)	MLS 429 OUTPUT (B)	-2 (22)----------------	MLS/DME SELECT RELAY
	SHIELD GND	-35 (22)--	
(O)	SEL GP > 4° (NO)	-54 ----NC	
(O)	BAZ AVAILABLE (NO)	-57 ----NC	
(I)	MLS RF IN (FORE)	C116J2--------------------	C118J1 See 1.3
(I)	MLS RF IN (AFT)	C116J3--------------------	C119J1 See 1.3

Interconnect Information
Table 501 (cont)

MLS Control Head 1 (CM-850)

IOB P	Function	Connector Pin		Connects To
(P)	28 VDC PWR	117J1-E	(22)-----------------	28 VDC PWR (H), 116J1-5
(P)	28 VDC PWR RET	-j	(22)-----------------	28 VDC PWR (L), 116J1-4
(I)	5 VAC/DC DIMMING	-D	(22)-----------------	5 V PANEL LIGHTS DIMMING
(I)	28 VDC DIMMING	-a	----NC	
(I)	DIMMING COMMON	-Z	(22)-----------------	5 V PANEL LIGHTS DIMMING
(O)	AUDIO (HI)	-B	(22)-----------------	116J1-9
(O)	AUDIO (LO)	-t	(22)-----------------	116J1-21
(I)	RCB OUT (P)	-g	(22)-----------------	116J1-42
(I)	RCB OUT (N)	-R	(22)-----------------	116J1-40
	SHIELD GND	116J1-37	(22)--	
(O)	RCB IN (P)	117J1-h	(22)-----------------	116J1-67
(O)	RCB IN (N)	-S	(22)-----------------	116J1-39
	SHIELD GND	-s	(22)--	
(O)	MLS OFF	-A	(22)-----------------	116J1-7
(O)	MLS AUDIO (HI)	-b	(22)-----------------	MLS NO 1 AUDIO
(O)	MLS AUDIO (LO)	-c	(22)-----------------	J-BOX
	SHIELD GND	-k	(22)--	
(I)	FMS TUNING (P)	-F	----NC	
(I)	FMS TUNING (N)	-G	----NC	
(I)	NAV CTL (P)	-f	----NC	
(I)	NAV CTL (N)	-P	----NC	
	RESERVED	-r	----NC	
(I)	TEST INHIBIT	-Y	----NC	
	RESERVED	-p	----NC	
(I)	VOR/DME PAIRED	-X	(22)-----------------	117J1-n
	RESERVED	-d	----NC	
(I)	SIDE SELECT (NO)	-n	(22)-----------------	117J1-q, 117J1-X
(O)	STRAP COMMON	117J1-q	(22)-----------------	117J1-n

Interconnect Information
Table 501 (cont)

MLS Control Head 2 (CM-850)

IOB P	Function	Connector Pin		Connects To
(P)	28 VDC PWR	C117J1-E	(22)-----------------	28 VDC PWR (H), C116J1-5
(P)	28 VDC PWR RET	-j	(22)-----------------	28 VDC PWR (L), C116J1-4
(I)	5 VAC/DC DIMMING	-D	(22)-----------------	5 V PANEL LIGHTS DIMMING
(I)	28 VDC DIMMING	-a	----NC	
(I)	DIMMING COMMON	-Z	(22)-----------------	5 V PANEL LIGHTS DIMMING
(O)	AUDIO (HI)	-B	(22)-----------------	C116J1-9
(O)	AUDIO (LO)	-t	(22)-----------------	C116J1-21
(I)	RCB OUT (P)	-g	(22)-----------------	C116J1-42
(I)	RCB OUT (N)	-R	(22)-----------------	C116J1-40
	SHIELD GND	116J1-37	(22)--	
(O)	RCB IN (P)	117J1-h	(22)-----------------	C116J1-67
(O)	RCB IN (N)	-S	(22)-----------------	C116J1-39
	SHIELD GND	-s	(22)--	
(O)	MLS OFF	-A	(22)-----------------	C116J1-7
(O)	MLS AUDIO (HI)	-b	(22)-----------------	MLS NO 2 AUDIO
(O)	MLS AUDIO (LO)	-c	(22)-----------------	J-BOX
	SHIELD GND	-k	(22)--	
(I)	FMS TUNING (P)	-F	----NC	
(I)	FMS TUNING (N)	-G	----NC	
(I)	NAV CTL (P)	-f	----NC	
(I)	NAV CTL (N)	-P	----NC	
	RESERVED	-r	----NC	
(I)	TEST INHIBIT	-Y	----NC	
	RESERVED	-p	----NC	
(I)	VOR/DME PAIRED	-X	(22)-----------------	C117J1-q
	RESERVED	-d	----NC	
(I)	SIDE SELECT (NO)	-n	----NC	
(O)	SIDE SELECT COMMON	C117J1-q	(22)-----------------	C117J1-X

Interconnect Information
Table 501 (cont)

Display Controller 1

IOB P	Function	Connector Pin	Connects To
(I)	MLS INSTALLED	115J1-d (22)-----------------	SEE NOTE 2
(O)	500 ms NAV RETUNE	115J1-GG (22)-----------------	78A3-32 (SEE NOTE 3)

Display Controller 2

IOB P	Function	Connector Pin	Connects To
(I)	MLS INSTALLED	115J1-d (22)-----------------	SEE NOTE 2
(O)	500 ms NAV RETUNE	115J1-GG (22)-----------------	78A3-32 (SEE NOTE 3)

NOTES:

1. G-IV strapped for 4 degrees - Max Allowable Descent by Auto Pilot.
2. Connected to Power Ground.
3. This discrete is used to force the Gables control head to tune the DME in a continuous label stream rather than in a burst tune mode. This will allow the DME to be retuned when switching from NAV tuning source, to MLS tuning source, and then back to NAV. If this discrete is not momentarily grounded the DME will not be retuned by the NAV and an "F" will be displayed on the NAV control head.

Interconnect Information
Table 501 (cont)

APPENDIX L
TRAFFIC ALERT AND COLLISION AVOIDANCE SYSTEM (TCAS) INSTALLATION

APPENDIX L
TRAFFIC ALERT AND COLLISION AVOIDANCE SYSTEM (TCAS) INSTALLATION

1.0 TCAS INSTALLATION

1.1 Scope

This appendix provides data for the installation of the Honeywell TCAS computer into the G-IV aircraft. Included are TCAS mechanical mounting requirements and the electrical interconnections required to tie this system to existing G-IV avionics and diversity Mode S transponders.

1.2 Functional Description

The TCAS system determines the range, altitude, and bearing of other aircraft equipped with mode S/ATCRBS transponders with respect to the location of own aircraft. The system monitors the trajectory of these target aircraft for the purpose of determining if any of them constitute a potential collision hazard. TCAS target aircraft are displayed on the TCAS system page and on the pilot and copilot's navigation display. These target displays are crew selectable though the display controllers. Also, the TCAS system page will pop-up automatically when the TCAS computer computes a target as a resolution advisory class target if not already called up for display. The system is responsible for estimating the separation at closest approach and determining if a potential conflict exists. If so, the system displays a resolution advisory to the pilot on the Primary Flight Displays on the vertical speed tape. In addition to the visual resolution advisory annunciations, aural annunciations broadcast through the crew audio panel and a dedicated speaker, reinforce avoidance commands to the flight crew. An aural advisory annunciation cancel button, canceling the current annunciation, is available to the flight crew. The correctness of the avoidance maneuver is ensured by coordination of mutual intentions with other TCAS equipped aircraft through the Mode S transponders.

The TCAS system is composed of several LRU's, sensors, and antennas. The TCAS computer is the focus of the TCAS system. It communicates, bi-directionally, with the two Mode S transponders, though four ARINC 429 buses. Air data information, from the AZ-810 digital air data computers, is passed through the Mode S transponders to the TCAS computer on these buses.

The TCAS computer also communicates traffic and resolution advisories, in ARINC 429 format, with the three symbol generators on two high speed buses. The flight data recorder data acquisition unit is also tied to one of these buses to record all resolution advisories issued to the flight crew.

The TCAS computer receives absolute altitude data directly from the two RT-300 radio altimeters. This altitude information is communicated to the TCAS computer on two ARINC 552 analog buses. A "radio altitude valid" discrete also communicates each RT-300's validity to the TCAS computer.

In addition to the two radio altitude antennas, the TCAS system relies on six other antennas for operation. Two of these antennas are driven by the receiver/transmitter located in the TCAS computer. These are the aircraft top-mounted directional antenna and the bottom mounted omni-directional antenna. Both of these antennas operate in the L-band. (The (-902) TCAS computer is certified for a dual (top and bottom) directional antenna installation.)

Each Mode S transponder also communicates through two dedicated omni-directional transmit/receive L-band antennas. Two of the antennas are mounted on the top of the aircraft and the other two are mounted on the bottom of the aircraft.

Interconnect Information
Table 501 (cont)

Pilot interface with the TCAS system is made through the dual Gables transponder control heads and the TCAS adapter panel located on the center console. The TCAS adapter panel is not tied directly to the TCAS computer, rather is situated in series between the Mode S transponders and the Mode S control heads. The TCAS computer is located downstream from the Mode S transponders. All control data is passed to the TCAS computer through the four ARINC 429 buses linking the transponders to the TCAS computer.

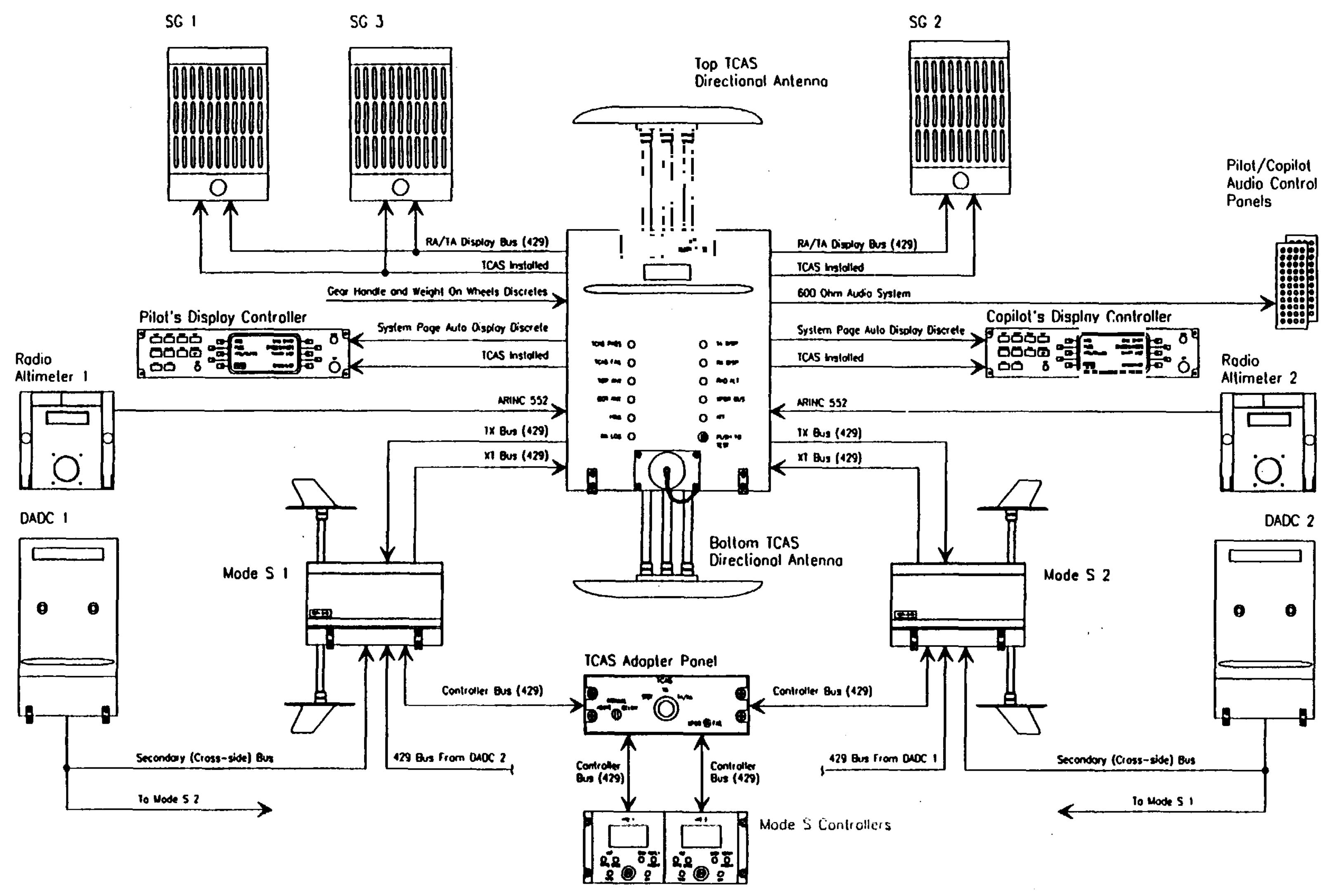
The TCAS computer also receives discrete data from the landing gear up/down and weight-on-wheels switches. Gear up/down logic is used in the correction of the lower antenna beam pattern. Weight-on-wheels logic is used to move the TCAS system into a "standby" mode while on the ground if the system has been so pin-programmed.

TCAS failure information is displayed on the CAS as "TCAS Fail". This information is passed to the FWC over ASCB from the SG words. (TCAS transmits failure data to the SG's on ARINC 429.)

To run TCAS self-test, transponders should be in STBY and the TCAS adapter panel should be in TA or TA/RA mode. While weight is on the wheels, pressing the test switch on the transponder control panel will execute the TCAS self-test. Depression of the test switch for greater than 8 seconds causes the extended maintenance mode/failure page to be displayed in place of the TA display on the System Page.

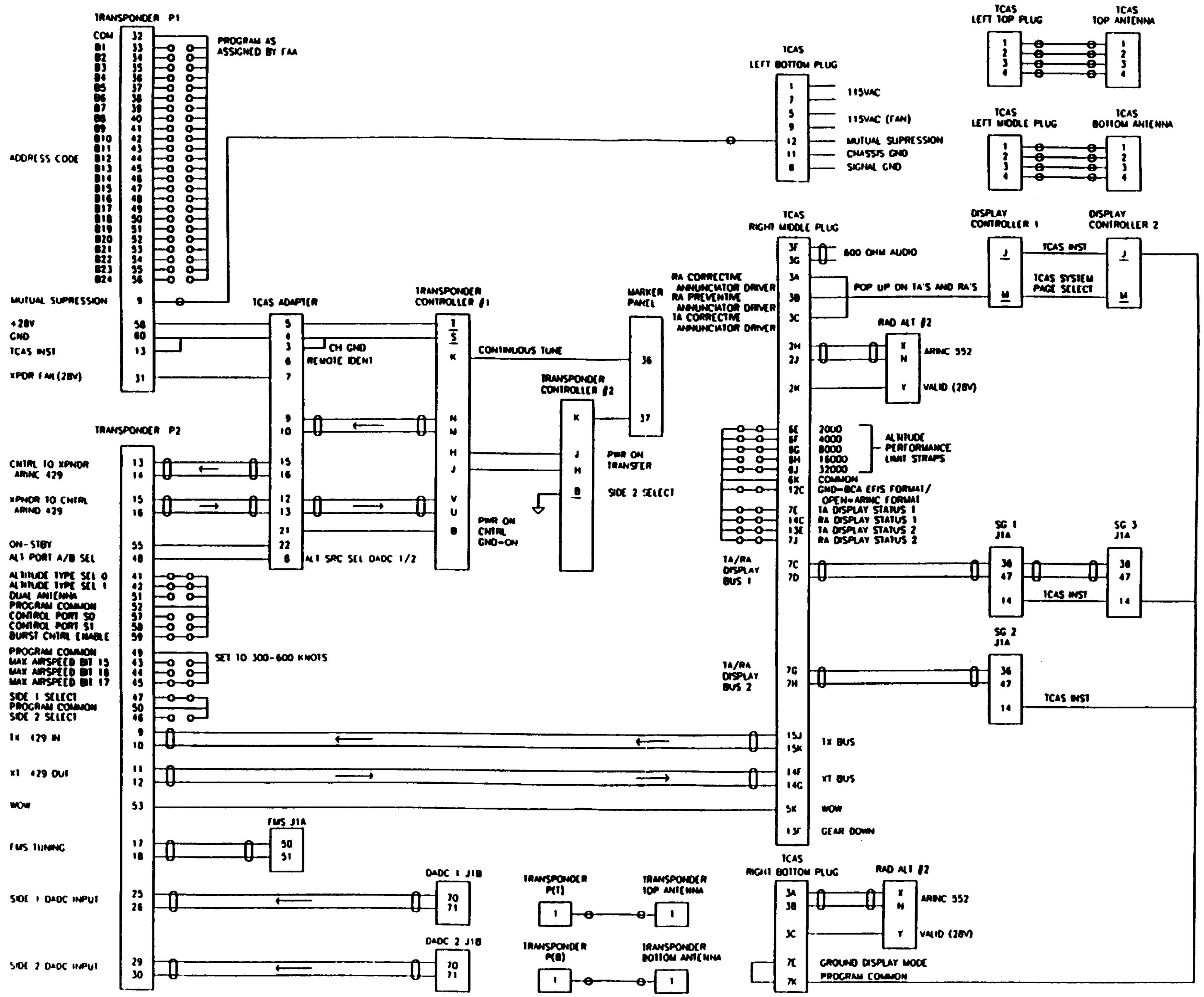
Interconnect Information
Table 501 (cont)

Interconnect Information
Table 501 (cont)



G-IV TCAS System

Figure L-1



G-IV TCAS SYSTEM WIRING DIAGRAM (TYPICAL) - ONLY SIDE 1 TRANSPONDER SHOWN
Figure L-2

1.3 Mechanical Installation Information

TCAS Computer

The TCAS computer is mounted in an ARINC 600 6 MCU tray. Forced air cooling is required for the TCAS computer. The ARINC 600 tray is available with an integral cooling fan. The fan can be located in various positions around the tray (P/N dependent) to accommodate aircraft spacing requirements.

The TCAS computer must be located inside the pressure vessel.

Refer to TCAS System Description and Installation Manual, Honeywell Publication 15-3841-05, for detailed installation information. See Table L-1.

Antennas

Placement of the upper directional antenna on the G-IV was established by Gulfstream to be on the aircraft centerline at approximately STA 180. Refer to TCAS System Description and Installation Manual, Honeywell Publication 15-3841-05 for additional requirements. See Table L-1.

Lower directional antenna placement is approximately at STA 140.5.

1.4 Environmental Qualifications

The TCAS computer has been tested to the following DO-160B environmental qualifications. These qualifications meet or exceed the requirements of ARINC 735, attachment 13.

DO-160B Section	Environment	TCAS Computer
4	Temperature and Altitude	CAT A2
5	Temperature Variation	CAT B
6	Humidity	CAT A
7	Shock (Operate and Sustained)	YES

Interconnect Information
Table 501 (cont)

DO-160B Section	Environment	TCAS Computer
8	Vibration	CAT O
10	Waterproofness	CAT X
11	Fluid Susceptibility	CAT X
12	Sand and Dust	CAT X
13	Fungus	CAT X
14	Salt Spray	CAT X
15	Magnetic Effect	CAT Z
16	Power Input	CAT A
17	Conducted Voltage Transient	CAT A
18	Audio Frequency Conducted Susceptibility	CAT Z
19	Induced Signal Susceptibility	CAT Z
20	Radio Frequency Susceptibility (Radiated and Conducted)	CAT Z
21	Spurious Radio Frequency Emission	CAT Z
22	Lightning	
	Signal and Power Cables	CAT K
	Antenna Cables	CAT M

Interconnect Information
Table 501 (cont)

Table L-1
TCAS Equipment List

TCAS Computer

Table L-1 (continued)
TCAS Equipment List

Directional Antennas

Component Designation	Description	Qty	Part Number
[illegible]	Directional Antenna	2	[illegible]

Table L-1 (continued)
TCAS Equipment List

Omni-directional Antenna (Single Directional Installation only)

[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]		

Omni-directional Antenna with Directional Fit and Form (Single Directional Installation Provisioned for Dual Directional Antennas)

[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]

Interconnect Information
Table 501 (cont)

1.5 Power and Weight Specification

Power for the TCAS computer is taken from the aircraft 115 VAC 400 Hz power bus. A single circuit breaker switches power to the TCAS computer. The TCAS computer uses 80 Watts maximum of power.

The maximum weight of the TCAS computer is 15.0 kg (33 pounds).

1.6 Additional Interface Requirements

New part number display controllers, symbol generators, and fault warning computers must be installed when the aircraft is updated to operate with TCAS. The required part numbers are as follows:

Unit Number	Unit	Part Number
65/C65/E65	SG-884 Symbol Generator	7008570-904
115/C115	DC-884 Display Controller	7007540-941/-942
134/C134	FC-880 Fault Warning Computer	7007484-905

All mounting requirements specified in previous sections of this document remain the same. This appendix defines the additional requirements for the addition of the TCAS function.

1.7 Interconnect Information

Interconnect information for the TCAS computer follows. Complete interconnect information is provided for the TCAS computer as well as modifications required to baseline and other retrofit equipment.

Interconnect Information
Table 501 (cont)

TCAS COMPUTER

IOB P	Function	Connector Pin		Connects To
	LEFT TOP INSERT			
(I)	TOP ANTENNA - 0	193LTP-1	(NOTE 1)-------------	194J1-1
(I)	TOP ANTENNA - 90	-2	(NOTE 1)-------------	194J1-2
(I)	TOP ANTENNA - 180	-3	(NOTE 1)-------------	194J1-3
(I)	TOP ANTENNA - 270	193LTP-4	(NOTE 1)-------------	194J1-4
	LT MIDDLE INSERT			
(I)	BOTTOM ANT 0/OMNI	193LMP-1	(NOTE 1)-------------	195J1-1
(I)	BOTTOM ANT - 90	-2	(NOTE 4)-------------	195J1-2
(I)	BOTTOM ANT - 180	-3	(NOTE 4)-------------	195J1-3
(I)	BOTTOM ANT - 270	193LMP-4	(NOTE 4)-------------	195J1-4
	LT BOTTOM INSERT			
(P)	115 VAC PRIMARY (HOT)	193LBP-1	(20)-----------------	A/C 115 VAC POWER
	FUTURE SPARE	-2	----NC	
	RESERVED (28 VDC RETURN)	-3	----NC	
	FUTURE SPARE	-4	----NC	
(O)	115 VAC (H) OUTPUT TO FAN	-5	(20)-----------------	TRAY INTEGRAL FAN
	FUTURE SPARE	-6	----NC	
(P)	115 VAC PRIMARY (COLD)	-7	(12)-----------------	A/C 115 VAC POWER GROUND
(I)	SIGNAL GROUND	-8	(12)-----------------	A/C SIGNAL GND
(O)	115 VAC (C) OUTPUT TO FAN	-9	(16)-----------------	TRAY INTEGRAL FAN
	RESERVED (28 VDC PRIMARY POWER)	-10	----NC	
(I)	CHASSIS GROUND	-11	(16)-----------------	A/C CHASSIS GND
(I)	SUPPRESSION PULSE	-12	(NOTE 2)-------------	XPDR #2 (PIN BP-12)
(O)	SUPPRESSION PULSE	193LBP-13	----NC	

Interconnect Information
Table 501 (cont)

TCAS COMPUTER (cont)

IOB P	Function	Connector Pin	Connects To
	RIGHT TOP INSERT		
	THIS INSERT IS BLANK		
	RT MIDDLE INSERT		
	RESERVED	193RMP-1A ----NC	
	RESERVED	-1B ----NC	
	RESERVED	-1C ----NC	
	RESERVED	-1D ----NC	
(O)	TA DISPLAY ENBL *	-1E ----NC	
(O)	AURAL ADVISORY DISCRETE (CORRECTIVE) *	-1F ----NC	
	SPARE	-1G ----NC	
	SPARE	-1H ----NC	
(I)	CLIMB INHIBIT DISCRETE 1 *	-1J ----NC	
(O)	AURAL ADVISORY DISCRETE (PREVENTIVE) *	-1K ----NC	
(O)	AURAL ADVISORY DISCRETE (TFFK ALERT) *	-2A ----NC	
	SPARE	-2B ----NC	
	SPARE	-2C ----NC	
(I)	ADVISORY/ANNOUNCE COMMON	-2D ----NC	
	SPARE	-2E ----NC	
(O)	SYNTHESIZED VOICE 8 OHM (H)	-2F ----NC	
(O) (O)	SYNTHESIZED VOICE 8 OHM (L)	193RMP-2G ----NC	

Interconnect Information
Table 501 (cont)

TCAS COMPUTER (cont)

IOB P	Function	Connector Pin	Connects To
	RT MIDDLE INSERT		
(I)	RADIO ALTIMETER 1 ARINC 552 SIGNAL (H)	193RMP-2H (22)	20J1-X
(I)	RADIO ALTIMETER 1 ARINC 552 SIGNAL (L)	-2J (22)	20J1-N
(I)	RAD ALT 1 VALID (28 V/OPEN)	-2K (22)	20J1-Y
(O)	VISUAL ANUNCIATOR (CORRECTIVE) *	-3A (22)	115J1-m, C115J1-m
(O)	VISUAL ANNUNCIATOR (PREVENTIVE) *	-3B (22)	115J1-m, C115J1-m
(O)	VISUAL ANNUNCIATOR (TFFK ALERT) *	-3C (22)	115J1-m, C115J1-m
(I)	ADVISORY/ANNUN CANCEL *	-3D ----NC	
	FUTURE SPARE	-3E ----NC	
(O)	SYNTHESIZED VOICE 600 OHM (H)	-3F (22)	A/C AUDIO SYSTEM
(O)	SYNTHESIZED VOICE 600 OHM (L)	-3G (22)	A/C AUDIO SYSTEM
	SHIELD GND		
	FUTURE SPARE	-3H ----NC	
	FUTURE SPARE	-3J ----NC	
	FUTURE SPARE	-3K ----NC	
(I)	RESERVED - PITCH ATTITUDE SYNCHRO (X)	-4A ----NC	
(I)	RESERVED - PITCH ATTITUDE SYNCHRO (Y)	-4B ----NC	
(I)	RESERVED - PITCH ATTITUDE SYNCHRO (Z)	-4C ----NC	
	RESERVED - ATTITUDE SHIELD GROUND	193RMP-4D ----NC	

Interconnect Information
Table 501 (cont)

TCAS COMPUTER (cont)

IOB P	Function	Connector Pin	Connects To
	RT MIDDLE INSERT		
(I)	RESERVED - ROLL ATTITUDE SYNCHRO (X)	193RMP-4E ----NC	
(I)	RESERVED - ROLL ATTITUDE SYNCHRO (Y)	-4F ----NC	
(I)	RESERVED - ROLL ATTITUDE SYNCHRO (Z)	-4G ----NC	
(I)	RESERVED - ATTITUDE REF 26 VAC (H)	-4H ----NC	
(I)	RESERVED - ATTITUDE REF 26 VAC (L)	-4J ----NC	
(I)	RESERVED - ATTITUDE VALID	-4K ----NC	
(I)	RESERVED - MAG HEADING SYNCHRO (X)	-5A ----NC	
(I)	RESERVED - MAG HEADING SYNCHRO (Y)	-5B ----NC	
(I)	RESERVED - MAG HEADING SYNCHRO (Z)	-5C ----NC	
	FUTURE SPARE	-5D ----NC	
	FUTURE SPARE	-5E ----NC	
	FUTURE SPARE	-5F ----NC	
	FUTURE SPARE	-5G ----NC	
(O)	RESERVED - MAG HEADING 26 VAC REF (H)	-5H ----NC	
(O)	RESERVED - MAG HEADING 26 VAC REF (L)	193RMP-5J ----NC	

Interconnect Information
Table 501 (cont)

TCAS COMPUTER (cont)

IOB P	Function	Connector Pin	Connects To
	RT MIDDLE INSERT		
(I)	WOW *	193RMP-5K (22)-----------------	NUTCRACKER SWITCH
(I)	RESERVED - PERF LIMIT ARINC 429 (H)	-6A ----NC	
(I)	RESERVED - PERF LIMIT ARINC 429 (L)	-6B ----NC	
(I)	MAG HEADING VALID DISC (28 V/OPEN)	-6C ----NC	
(I)	PERFORMANCE LIMIT DISCRETE	-6D ----NC	
(I)	A/C ALT LIMIT - 2000 FEET *	-6E (22)-----------------	193RMP-6K
(I)	A/C ALT LIMIT - 4000 FEET *	-6F (22)-----------------	193RMP-6K
(I)	A/C ALT LIMIT - 8000 FEET *	-6G (22)-----------------	193RMP-6K
(I)	A/C ALT LIMIT - 16000 FEET *	-6H ----NC	
(I)	A/C ALT LIMIT - 32000 FEET *	-6J (22)-----------------	193RMP-6K
(O)	PROGRAM COMMON	-6K (22)-----------------	193RMP-6E, 193RMP-6F, 193RMP-6G, 193RMP-6J, 193RMP-7E, 193RMP-7J, 193RMP-12C, 193RMP-13E, 193RMP-14C
(I)	RESERVED - MAG HEAD/ATT ARINC 429 (H)	-7A ----NC	
(I)	RESERVED - MAG HEAD/ATT ARINC 429 (L)	193RMP-7B ----NC	

Interconnect Information
Table 501 (cont)

TCAS COMPUTER (cont)

IOB P	Function	Connector Pin	Connects To
	RT MIDDLE INSERT		
(B)	TA/RA DISPLAY #1 ARINC 429 HI SPEED (H)	193RMP-7C (22)	65/E65J1A-36
(B)	TA/RA DISPLAY #1 ARINC 429 HI SPEED (L)	-7D (22)	65/E65J1A-47
	SHIELD GND		
(I)	TA DISPLAY #1 STATUS	-7E (22)	193RMP-6K
	FUTURE SPARE	-7F ----NC	
(B)	TA/RA DISPLAY #2 ARINC 429 HI SPEED (H)	-7G (22)	C65J1A-36, FLIGHT DATA RECORDER DAU
(B)	TA/RA DISPLAY #2 ARINC 429 HI SPEED (L)	-7H (22)	C65J1A-47, FLIGHT DATA RECORDER DAU
	SHIELD GND		
(I)	TA DISPLAY #2 STATUS	-7J (22)	193RMP-6K
	FUTURE SPARE	-7K ----NC	
(O)	DATA LOADER XMIT A	-8A ----NC	
(O)	DATA LOADER XMIT B	-8B ----NC	
	DATA LOADER SPARE	-8C ----NC	
	DATA LOADER SPARE	-8D ----NC	
	DATA LOADER SPARE	-8E ----NC	
	DATA LOADER SPARE	-8F ----NC	
	DATA LOADER SPARE	-8G ----NC	
	DATA LOADER SPARE	-8H ----NC	
	DATA LOADER SPARE	193RMP-8J ----NC	

Interconnect Information
Table 501 (cont)

TCAS COMPUTER (cont)

IOB P	Function	Connector Pin	Connects To
	RT MIDDLE INSERT		
	DATA LOADER SPARE	193RMP-8K	----NC
(I)	DATA LOADER RECEIVE A	-9A	----NC
(I)	DATA LOADER RECEIVE B	-9B	----NC
	DATA LOADER SPARE	-9C	----NC
	DATA LOADER SPARE	-9D	----NC
	DATA LOADER SPARE	-9E	----NC
	DATA LOADER SPARE	-9F	----NC
	DATA LOADER SPARE	-9G	----NC
	DATA LOADER SPARE	-9H	----NC
	DATA LOADER SPARE	-9J	----NC
	DATA LOADER SPARE	-9K	----NC
(I)	WEATHER RADAR ASPECT RATIO *	-10A	----NC
(I)	WEATHER RADAR INTERFACE ENABLE *	-10B	----NC
(I)	WEATHER RADAR RNG SEL 8 (TTL)	-10C	----NC
(I)	WEATHER RADAR RNG SEL 4 (TTL)	-10D	----NC
(I)	WEATHER RADAR RNG SEL 2 (TTL)	-10E	----NC
(I)	WEATHER RADAR RNG SEL 1 (TTL)	193RMP-10F	----NC

Interconnect Information
Table 501 (cont)

TCAS COMPUTER (cont)

IOB P	Function	Connector Pin	Connects To
	RT MIDDLE INSERT		
(I)	RED VIDEO (P) TTL	193RMP-10G ----NC	
(I)	RED VIDEO (N) TTL	-10H ----NC	
(I)	GRN VIDEO (P) TTL	-10J ----NC	
(I)	GRN VIDEO (N) TTL	-10K ----NC	
(I)	BLUE VID (P) TTL	-11A ----NC	
(I)	BLUE VID (N) TTL	-11B ----NC	
(I)	VIDEO ENABLE (POS) TTL	-11C ----NC	
(I)	VIDEO ENABLE (NEG) TTL	-11D ----NC	
	SHIELD	-11E ----NC	
(I)	HORIZONTAL REF (POS) TTL	-11F ----NC	
(I)	HORIZONTAL REF (NEG) TTL	-11G ----NC	
(I)	VERTICAL REF (POS) TTL	-11H ----NC	
(I)	VERTICAL REF (NEG) TTL	-11J ----NC	
(I)	DC RETURN	-11K ----NC	
(I)	WEATHER RADAR STBY DISC *	-12A ----NC	
(I)	RAD ALT 552/COLLINS *	-12B ----NC	
(I)	TA/RA BLOCK TRANSFER PROG *	-12C (22)-----------------	193RMP-6K
(I)	A/C TYPE - 1 *	-12D ----NC	
(I)	A/C TYPE - 0 *	-12E ----NC	
(I)	VOLUME - 1 *	-12F ----NC	
(I)	VOLUME - 0 *	-12G ----NC	
	USER DEFINED	-12H ----NC	
	USER DEFINED	-12J ----NC	
	USER DEFINED	-12K ----NC	
(O)	RA DISPLAY #1 ARINC 429 LO SPEED - (HI)	193RMP-13A ----NC	

Interconnect Information
Table 501 (cont)

TCAS COMPUTER (cont)

IOB P	Function	Connector Pin	Connects To
	RT MIDDLE INSERT		
(O)	RA DISPLAY #1 ARINC 429 LO SPEED - (LO)	193RMP-13B ----NC	
(O)	RA DISPLAY #2 ARINC 429 LO SPEED - (HI)	-13C ----NC	
(O)	RA DISPLAY #2 ARINC 429 LO SPEED - (LO)	-13D ----NC	
(I)	RA DISPLAY #2 STATUS *	-13E (22)-----------------	193RMP-6K
(I)	LANDING GEAR DOWN *	-13F (22)-----------------	GEAR HANDLE SWITCH
(I)	CLIMB INHIBIT DISCRETE 2 *	-13G ----NC	
(I)	RADIO ALTIMETER #1 ARINC 429 (HI)	-13H ----NC	
(I)	RADIO ALTIMETER #1 ARINC 429 (LO)	-13J ----NC	
(I)	TCAS SYSTEM STATUS DISC *	-13K ----NC	
(O)	TX COORD #2 ARINC 429 HI SPEED (HI)	-14A (22)-----------------	90TP-5E
(O)	TX COORD #2 ARINC 429 HI SPEED (LO)	-14B (22)-----------------	90TP-5F
(I)	RA DISPLAY #1 STATUS	-14C (22)-----------------	193RMP-6K
(I)	RESERVED ARINC 429 (HI)	193RMP-14D ----NC	

Interconnect Information
Table 501 (cont)

TCAS COMPUTER (cont)

IOB P	Function	Connector Pin	Connects To
	RT MIDDLE INSERT		
(I)	RESERVED ARINC 429 (LO)	193RMP-14E ----NC	
(I)	XT COORD #1 ARINC 429 HI SPEED (HI)	-14F (22)	89TP-5G
(I)	XT COORD #1 ARINC 429 HI SPEED (LO)	-14G (22)	89TP-5H
(I)	XT COORD #2 ARINC 429 HI SPEED (HI)	-14H (22)	90TP-5G
(I)	XT COORD #2 ARINC 429 HI SPEED (LO)	-14J (22)	90TP-5H
	FUTURE SPARE	-14K ----NC	
	FUTURE SPARE	-15A ----NC	
	FUTURE SPARE	-15B ----NC	
	FUTURE SPARE	-15C ----NC	
	FUTURE SPARE	-15D ----NC	
	FUTURE SPARE	-15E ----NC	
	FUTURE SPARE	-15F ----NC	
	FUTURE SPARE	-15G ----NC	
	FUTURE SPARE	-15H ----NC	
(O)	TX COORD #1 ARINC 429 HI SPEED (HI)	-15J (22)	89TP-5E
(O)	TX COORD #1 ARINC 429 HI SPEED (LO)	193RMP-15K (22)	89TP-5F
	SHIELD GND	-------	

Interconnect Information
Table 501 (cont)

TCAS COMPUTER (cont)

IOB P	Function	Connector Pin	Connects To
	RT BOTTOM INSERT		
	FUTURE SPARE	193RBP-1A ----NC	
	FUTURE SPARE	-1B ----NC	
	FUTURE SPARE	-1C ----NC	
	FUTURE SPARE	-1D ----NC	
	FUTURE SPARE	-1E ----NC	
	FUTURE SPARE	-1F ----NC	
	FUTURE SPARE	-1G ----NC	
(O)	RA GUIDANCE LBL 270 BIT 18 SERIES/SHUNT	-1H ----NC	
(O)	RA GUIDANCE LBL 270 BIT 19 SERIES/SHUNT	-1J ----NC	
(O)	RA GUIDANCE LBL 270 BIT 20 SERIES/SHUNT	-1K ----NC	
	FUTURE SPARE	-2A ----NC	
	FUTURE SPARE	-2B ----NC	
	FUTURE SPARE	-2C ----NC	
	FUTURE SPARE	-2D ----NC	
	FUTURE SPARE	-2E ----NC	
	FUTURE SPARE	-2F ----NC	
	FUTURE SPARE	-2G ----NC	
(O)	RA GUIDANCE LBL 270 BIT 21 SERIES/SHUNT	-2H ----NC	
(O)	RA GUIDANCE LBL 270 BIT 22 SERIES/SHUNT	-2J ----NC	
(O)	RA GUIDANCE LBL 270 BIT 22 SERIES/SHUNT	193RBP-2K ----NC	

Interconnect Information
Table 501 (cont)

TCAS COMPUTER (cont)

IOB P	Function	Connector Pin	Connects To
	RT BOTTOM INSERT		
(I)	RADIO ALTIMETER 2 ARINC 552 SIGNAL (H)	193RBP-3A (22)	C20J1-X
(I)	RADIO ALTIMETER 2 ARINC 552 SIGNAL (L)	-3B (22)	C20J1-N
(I)	RAD ALT 2 VALID (28 V/OPEN)	-3C (22)	C20J1-Y
(I)	RADIO ALTIMETER #2 ARINC 429 (H)	-3D ----NC	
(I)	RADIO ALTIMETER #2 ARINC 429 (L)	-3E ----NC	
	FUTURE SPARE	-3F ----NC	
	FUTURE SPARE	-3G ----NC	
(O)	RA GUIDANCE LBL 270 BIT 24 SERIES/SHUNT	-3H ----NC	
(O)	RA GUIDANCE LBL 270 BIT 25 SERIES/SHUNT	-3J ----NC	
(O)	RA GUIDANCE LBL 270 BIT 26 SERIES/SHUNT	-3K ----NC	
(I)	RESERVED DISCRETE	-4A ----NC	
(I)	RESERVED DISCRETE	-4B ----NC	
(I)	RESERVED DISCRETE	-4C ----NC	
(I)	RESERVED DISCRETE	193RBP-4D ----NC	

Interconnect Information
Table 501 (cont)

TCAS COMPUTER (cont)

IOB P	Function	Connector Pin	Connects To
	RT BOTTOM INSERT		
(I)	RESERVED DISCRETE	193RBP-4E ----NC	
(I)	RESERVED DISCRETE	-4F ----NC	
(O)	RA GUIDANCE LBL 270 BIT 27 SERIES/SHUNT	-4H ----NC	
(O)	RA GUIDANCE LBL 270 BIT 28 SERIES/SHUNT	-4J ----NC	
(O)	RA GUIDANCE LBL 270 BIT 29 SERIES/SHUNT	-4K ----NC	
(I)	ADVIS INHIBIT DISCRETE 1 *	-5A ----NC	
(I)	ADVIS INHIBIT DISCRETE 2 *	-5B ----NC	
(I)	ADVIS INHIBIT DISCRETE 3 *	-5C ----NC	
(I)	ADVIS INHIBIT DISCRETE 4 *	-5D (22)-----------------	148J1A-096, GROUND PROX
(I)	INCR CLIMB INHIBIT 1 *	-5E ----NC	
(I)	INCR CLIMB INHIBIT 2 *	-5F ----NC	
(I)	INCR CLIMB INHIBIT 3 *	-5G ----NC	
(I)	INCR CLIMB INHIBIT 4 *	-5H ----NC	
(I)	CLIMB INHIBIT DISCRETE 3 *	-5J ----NC	
(I)	CLIMB INHIBIT DISCRETE 4 *	193RBP-5K ----NC	

Interconnect Information
Table 501 (cont)

TCAS COMPUTER (cont)

IOB P	Function	Connector Pin		Connects To
	RT BOTTOM INSERT			
(I)	DATA LOADER DISCRETE 1	193RBP-6A ----NC		
(I)	DATA LOADER DISCRETE 2	-6B ----NC		
(I)	RESERVED DISCRETE	-6C ----NC		
(I)	RESERVED DISCRETE	-6D ----NC		
(O)	CFDS ARINC 429 (HI)	-6E ----NC		
(O)	CFDS ARINC 429 (LO)	-6F ----NC		
(I)	CFDS ARINC 429 (HI)	-6G ----NC		
(I)	CFDS ARINC 429 (LO)	-6H ----NC		
	FUTURE SPARE	-6J ----NC		
	FUTURE SPARE	-6K ----NC		
(I)	AUDIO VOLUME PROGRAM PIN	-7A ----NC	NOTE 5	
(I)	AUDIO VOLUME PROGRAM PIN	-7B ----NC	NOTE 5	
(I)	AUDIO VOLUME PROGRAM PIN	-7C ----NC	NOTE 5	
(I)	AUDIO TONE ENABLE *	-7D ----NC		
(I)	GROUND DISPLAY MODE PROGRAM *	-7E (22)----------------		193RBP-7K
(I)	DISPLAY ALL TRAFFIC *	-7F ----NC		
(I)	CABLE DELAY SGN *	-7G ----NC	NOTE 1	
(I)	CABLE DELAY MSB *	-7H ----NC	NOTE 1	
(I)	CABLE DELAY LSB *	193RBP-7J ----NC	NOTE 1	

Interconnect Information
Table 501 (cont)

TCAS COMPUTER (cont)

IOB P	Function	Connector Pin	Connects To
	RT BOTTOM INSERT		
(O)	PROGRAM COMMON	193RBP-7K (22)-----------------	193RBP-7E, 115J1-j, C115J1-j, 65J1A-14, C65J1A-14, E65J1A-14
(I)	RESERVED PROGRAM PIN	-8A ----NC	
(I)	RESERVED PROGRAM PIN	-8B ----NC	
(I)	RESERVED PROGRAM PIN	-8C ----NC	
(I)	RESERVED PROGRAM PIN	-8D ----NC	
(I)	RESERVED PROGRAM PIN	-8E ----NC	
(I)	TA/RA DISPLAY SYMBOL MAX 16 *	-8F ----NC	NOTE 3
(I)	TA/RA DISPLAY SYMBOL MAX 8 *	-8G ----NC	NOTE 3
(I)	TA/RA DISPLAY SYMBOL MAX 4 *	-8H ----NC	NOTE 3
(I)	TA/RA DISPLAY SYMBOL MAX 2 *	-8J ----NC	NOTE 3
(I)	TA/RA DISPLAY SYMBOL MAX 1 *	-8K ----NC	NOTE 3
	RESERVED FOR BENCH TEST	-9A ----NC	
		193RBP-7A ----NC	

Interconnect Information
Table 501 (cont)

TCAS TOP ANTENNA

IOB P	Function	Connector Pin		Connects To
(I)	ANTENNA 0°	194J1-1	(NOTE 1)-------------	193LTP-1
(I)	ANTENNA 90°	-2	(NOTE 1)-------------	193LTP-2
(I)	ANTENNA 180°	-3	(NOTE 1)-------------	193LTP-3
(I)	ANTENNA 270°	194J1-4	(NOTE 1)-------------	193LTP-4

TCAS BOTTOM ANTENNA

IOB P	Function	Connector Pin		Connects To
(I)	ANTENNA 0°/OMNI	195J1-1	(NOTE 1)-------------	193LMP-1
(I)	ANTENNA 90°	-2	(NOTE 4)-------------	193LMP-2
(I)	ANTENNA 180°	-3	(NOTE 4)-------------	193LMP-3
(I)	ANTENNA 270°	195J1-4	(NOTE 4)-------------	193LMP-4

Interconnect Information
Table 501 (cont)

DISPLAY CONTROLLER NO. 1

IOB P	Function	Connector Pin	Connects To
(I)	TCAS INSTALLED	115J1-j (22)-----------------	193RBP-7K
(I)	TCAS SYSTEM PAGE SELECT	115J1-m (22)-----------------	193RBP-3A, 193RMP-3B, 193RMP-3C

DISPLAY CONTROLLER NO. 2

IOB P	Function	Connector Pin	Connects To
(I)	TCAS INSTALLED	C115J1-j (22)-----------------	193RBP-7K
(I)	TCAS SYSTEM PAGE SELECT	C115J1-m (22)-----------------	193RBP-3A, 193RMP-3B, 193RMP-3C

SYMBOL GENERATOR NO. 1

IOB P	Function	Connector Pin	Connects To
(I)	TCAS INSTALLED	65J1A-14 (22)-----------------	193RBP-7K
(B)	TA/RA DISPLAY #1 ARINC 429 HI SPEED (H)	-36 (22)-----------------	193RMP-7C
(B)	TA/RA DISPLAY #1 ARINC 429 HI SPEED (L)	65J1A-47 (22)-----------------	193RMP-7D

Interconnect Information
Table 501 (cont)

SYMBOL GENERATOR NO. 2

IOB P	Function	Connector Pin	Connects To
(I)	TCAS INSTALLED	C65J1A-14 (22)	193RBP-7K
(B)	TA/RA DISPLAY #2 ARINC 429 HI SPEED (H)	-36 (22)	193RMP-7G
(B)	TA/RA DISPLAY #2 ARINC 429 HI SPEED (L)	C65J1A-47 (22)	193RMP-7H

SYMBOL GENERATOR NO. 3

IOB P	Function	Connector Pin	Connects To
(I)	TCAS INSTALLED	E65J1A-14 (22)	193RBP-7K
(B)	TA/RA DISPLAY #1 ARINC 429 HI SPEED (H)	-36 (22)	193RMP-7C
(B)	TA/RA DISPLAY #1 ARINC 429 HI SPEED (L)	E65J1A-47 (22)	193RMP-7D

RADIO ALTIMETER NO. 1

IOB P	Function	Connector Pin	Connects To
(O)	RAD ALT #1 OUTPUT (L)	20J1-N (22)	193RMP-2J
(O)	RAD ALT #1 OUTPUT (H)	-X (22)	193RMP-2H
(O)	RAD ALT #1 VALID	20J1-Y (22)	193RMP-2K

RADIO ALTIMETER NO. 2

IOB P	Function	Connector Pin	Connects To
(O)	RAD ALT #2 OUTPUT (L)	C20J1-N (22)	193RBP-3B
(O)	RAD ALT #2 OUTPUT (H)	-X (22)	193RBP-3A
(O)	RAD ALT #2 VALID	C20J1-Y (22)	193RBP-3C

Interconnect Information
Table 501 (cont)

DIGITAL AIR DATA NO. 1

IOB P	Function	Connector Pin	Connects To
(B)	AIR DATA OUTPUT #2 ARINC 429 LO SPEED (H)	9J1B-70 (22)	C65J1A-39, E65J1A-39, 148J1A-57, XPDR 1 TP-7H, XPDR 2 MP-5A
(B)	AIR DATA OUTPUT #2 ARINC 429 LO SPEED (L)	9J1B-71 (22)	C65J1A-40, E65J1A-40, 148J1A-58, XPDR 1 TP-7J, XPDR 2 MP-5B
	SHIELD GND		

DIGITAL AIR DATA NO. 2

IOB P	Function	Connector Pin	Connects To
(B)	AIR DATA OUTPUT #2 ARINC 429 LO SPEED (H)	C9J1B-70 (22)	C65J1B-39, E65J1B-39, 148J1B-57, XPDR 1 MP-5A, XPDR 2 TP-7H
(B)	AIR DATA OUTPUT #2 ARINC 429 LO SPEED (L)	C9J1B-71 (22)	C65J1B-40, E65J1B-40, 148J1B-58, XPDR 1 MP-5B, XPDR 2 TP-7J
	SHIELD GND		

Interconnect Information
Table 501 (cont)

NOTES

1. The following coaxial cable types meet TCAS directional and omni-directional antennas' interface requirements:

Cable type/ Manufacturer	Outside Diameter (inches)	Weight (lbs/ft)	Attenuation at 1 MHz (db/ft)	Time Delay (ns/ft)
RG142/Various	0.206	0.047	0.0130	1.44
RG142B/Various	0.195	0.050	0.0130	1.44
RG393/Various	0.195	0.050	0.0075	1.44
311201/ECS	0.320	0.086	0.0059	1.31
AA5886/Times	0.390	0.150	0.0049	1.27
AA5887/Times	0.270	0.075	0.0072	1.27
AA5888/Times	0.230	0.055	0.0083	1.27

The following two cables are specifically designed for TCAS/Mode S antenna installations:

Electronic Cable Specialists cable P/N 310801: the RF loss on this cable is 9.3 dBm/100 ft at 5 GHz of cable run. Bend radius is 2". Weight is 15 lbs/100ft. The mating connector is a crimp on type and is P/N CTS022. The crimping tool is P/N 225020/5-1 with a die number Y-149. These cables may be supplied with the connectors attached and complete loss and VSWR documentation is provided with each cable. In this instance, test cables should be installed to determine correct cable length. Although this presents a more challenging installation problem, the end result is a superior TCAS system.

PIC Wire and Cable P/N S22089: The RF loss on this cable is 9.5 dBm/100 ft of cable run at 5 GHz. Bend radius is 2.5". Weight is 20 lbs/100 ft. Mating connectors are TBD.

Interconnect Information
Table 501 (cont)

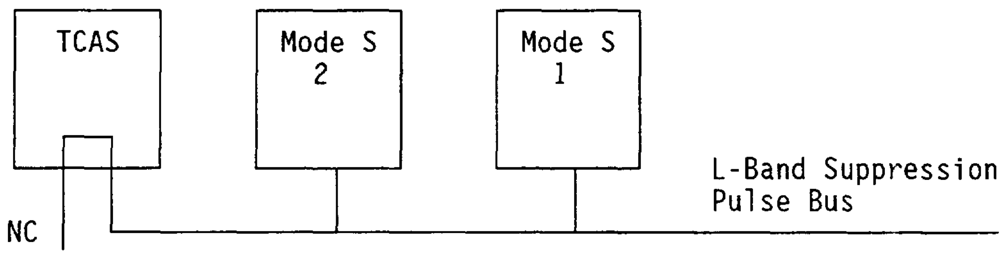
NOTES (continued)

If possible, bulkhead connectors should be avoided - especially those in an environment exposed to water, salt, fuels, hydraulic and deicing fluids, etc.. These agents cause rf connections to deteriorate with time and exposure level.

The TCAS computer provides compensation for differences in propagation delay between the top and bottom antennas. Propagation delay is a function of cable characteristic delay and cable length. If the difference in propagation delay between the upper and lower antennas exceed 50 nS, cable delay must be set on 193RBP-7G, 193RBP-7H, and 193RBP-7J.

Nominally, 40 feet difference in cable length would be needed to require setting the cable delay programming pins to other than OPEN's. Since most G-IV installations upper and lower TCAS antenna cable runs should be under 40 feet, setting these pins should not be required. For those installers with unusual cable run requirements, refer to section K.9, Cable Delay for the programming of these pins.

2 The TCAS computer is provided with an internal "T" to connect to the suppression pulse bus. The TCAS computer is tied to the end of the suppression pulse bus. The TDR-94D's are provided with a single mutual suppression bus input. See diagram below.



3 These pins are not used in this installation as the maximum symbol limit will be set within symbol generator software.

NOTES (continued)

4 If a directional antenna is used for the lower antenna installation, the 90°, 180°, and 270° coaxial line must be connected. The aircraft, however, may be provisioned for a lower directional antenna. The 3 additional coaxial wires may be run and capped and stowed. They should not be terminated if they are not used, as the TCAS computer interprets a terminated line as being connected to a directional antenna. -(902) TCAS computers are certified to operate with either a bottom directional antenna (dual directional mode) or bottom omni-directional antenna (single directional). An omni-directional antenna with the same form and fit as the directional antenna is available from Sensor Systems, Inc.. This allows the aircraft to be provisioned for the dual-directional installation and still function in a single directional (omni on the bottom) configuration.

5 Pins RBP-7A, RBP-7B, and RBP-7C program the power output level of the 8 Ω and 600 Ω audio outputs. The table below shows the program setting and the resulting power level at each output for that setting.

Program Pins			600 Ω Audio		8 Ω Audio	
7A	7B	7C	dBm	mW	dBW	W
1	1	1	16	40	6	4.0
1	1	0	13	20	3	2.0
1	0	1	10	10	0	1.0
1	0	0	7	5	-3	0.5
0	1	1	4	2.5	-6	0.25
0	1	0	1	1.25	-9	0.12
0	0	1	-2	0.63	-12	0.06
0	0	0	19	80	9	8.0

Interconnect Information
Table 501 (cont)

1.8 Pin-Programmed Options

The following pin-programming options are available on the TCAS computer. Refer to ARINC Characteristic 735, attachment 3B for a complete description of all interwiring options:

Aircraft Altitude Limit

These pins select the "can't climb" altitude in 2000 foot increments, up to 62,000 feet. Pins RMP-6E through RMP-6J are jumpered to program common (RMP-6K) to set the limit. The limit set by the pins represents worst case.

Audio Tone Enable

When RBP-7D is tied to program common (RMP-7K), an audio tone is output on the synthesized voice outputs just prior to the transmission of an aural resolution advisory.

Ground Display Mode

Connection of RBP-7E to program common (RBP-7K) indicates that the TCAS computer unit should place itself in the "standby" mode while on the ground. With this pin in an "open" configuration, only traffic will be displayed to the flight crew.

Display All Traffic

This discrete is used to set bit 27 (all traffic or TA/RA only bit) of label 001 on the TA/RA display bus. The EFIS software is programmed to display all traffic (OT/PT/TA/RA) regardless of the setting on this bit, and hence this discrete.

Cable Delay

RBP-7G through RBP-7J convey to the TCAS computer the amount of differential delay between the top and bottom TCAS antenna cables. Tie RBP-7G to program common to add delay time to the bottom antenna; leave open to add delay time to top antenna. Program RBP-7H and RBP-7J as follows to add time to TCAS:

RBP-7H/7J = OPEN/OPEN 0-50 nS; RBP-7H/J = OPEN/GND 51-150 nS
RBP-7H/7J = GND/OPEN 151-250 nS; RBP-7H/J = GND/GND 251-350 nS

Interconnect Information
Table 501 (cont)

1.8 Pin-Programmed Options (continued)

RA/TA Display Maximum

Pins RBP-8F through RPB-8K are used to encode the maximum number of intruder symbols to be presented on certain TA displays. In this installation, maximum number of intruder symbols will be set within the symbol generators.

ARINC/BCA 429 Display Format Select

This pin selects the label stream format to be output from the TCAS computer to the symbol generators. A "ground" on RMP-12C selects the BCA format.

ARINC 552/Collins BCA Radio Altitude Format Select

This pin selects the analog format to be received by the TCAS computer. An "open" on RMP-12B selects ARINC 552 format.

1.9 Discrete Inputs

The TCAS computer allows discrete inputs to account for varying aircraft performance conditions and to inhibit various TCAS computer operations during hazardous conditions.

Performance Limit

Pin RMP-6D has been assigned to provide the TCAS computer with an input from a flight management computer (FMC). The FMC would determine when the aircraft can no longer attain a 1500 fpm rate of climb and cause an "open" condition on this pin. If performance is not limited, the pin should be pulled to ground. When the input is an "open", the climb is limited while the altitude of the aircraft is above the value set in the aircraft altitude limit program pins.

Interconnect Information
Table 501 (cont)

Increase Climb Inhibit

Four discretes; RBP-5E through RBP-5H, are provided to indicate that the aircraft's climb performance is limited below 2500 fpm.

Advisory Inhibit

Four discretes; RBP-5A through RBP-5D, are provided to inhibit normal operation during hazardous conditions. Grounding RBP-5A or RBP-5D causes the TCAS computer to go to the "standby" mode. A ground at RBP-5C causes the TCAS computer to go into a TA only mode. Grounding RBP-5D will inhibit voice and aural outputs. In this installation, RBP-5D will be tied to gnd/open outputs on the windshear and ground proximity warning computers.

Advisory Annunciation Cancel

A discrete is provided to allow the pilot to cancel the current annunciation. Placing a ground on RMP-3D will cause the TCAS computer to cancel the current annunciation.

Climb Inhibit

Four discretes; RMP-1J, RMP-13G, RBP-5J, and RBP-5K, are provided to indicate that the aircraft's climb performance is limited below 1500 fpm.

Interconnect Information
Table 501 (cont)

APPENDIX M
TACAN INSTALLATION

APPENDIX M
TACAN INSTALLATION

1.0 TACAN INSTALLATION

1.1 Scope

This appendix provides data for the installation of the Collins TCN-500 Advanced Digital TACAN System and its interface with the existing SPZ-8000 system in the G-IV. Included are a functional description, equipment list, mechanical installation information, system schematic, and electrical interconnect information.

1.2 Functional Description

The SPZ-8000 system is modified to interface with a single TCN-500 Advanced Digital TACAN System. The TCN-500 System consists of a 374E-1 Receiver/Transmitter, a 377J-1 TACAN control unit, and two TACAN antennas. TACAN provides digital bearing, distance, range rate, and time-to-station information on an ARINC 429 bus. In this installation, only digital bearing and distance information is used.

Modifications to the SPZ-8000 Electronic Display System were required to accommodate interface to the TACAN system. These modifications are software only and have been made to the Display Controller (DC-884) and Symbol Generator (SG-884). TACAN frequency and mode selections are done through the TACAN control unit. Tuning via the FMS is not available.

TACAN will send digital distance and bearing information to each SG in ARINC 429 format. This is sent to the SG via ARINC 429 Port 14. This port was previously used to receive data from the Lightning Sensor System. Thus, with TACAN installed lightning data is not available for display.

Selection or preview of TACAN receiver information will be via the NAV select menu on either the pilot or copilot DC. Also, bearing pointer selection will be via the MAP or COMP function key through selection of TCN or AUTO. TACAN NAV source, bearing, course, and distance can be displayed on both the Primary Flight and Navigation Displays.

When TACAN is selected as the active navigation source, TACAN lateral navigation mode shall be operational. Similar to VOR mode, TACAN will couple to the Flight Guidance Computer and provide automatic intercept, capture, and tracking of a selected TACAN radial.

1.3 Equipment List

New part number Symbol Generators and Display Controllers must be installed when the aircraft is upgraded to operate with TACAN. The required part numbers are:

Connector Designator	Unit	Qty	Part Number
65/C65/E65	SG-884	3	7008570-913
115/C115	DC-884	2	7007540-951 (GRAY) 952 (BLACK)

The TCN-500 system equipment to be supplied by Collins is listed below:

Unit	Qty	Part Number
374E-1 Receiver/Transmitter	1	622-8149-004
377J-1 Control	1	622-2510-003
L-Band Antenna	2	522-2632-001

1.4 Mechanical Installation Information

Installation of the SG-884 and DC-884 are specified in Section 2.2 of this document. For TACAN installation information refer to Collins TCN-500 Advanced Digital TACAN Installation, Document No. 523-0774762.

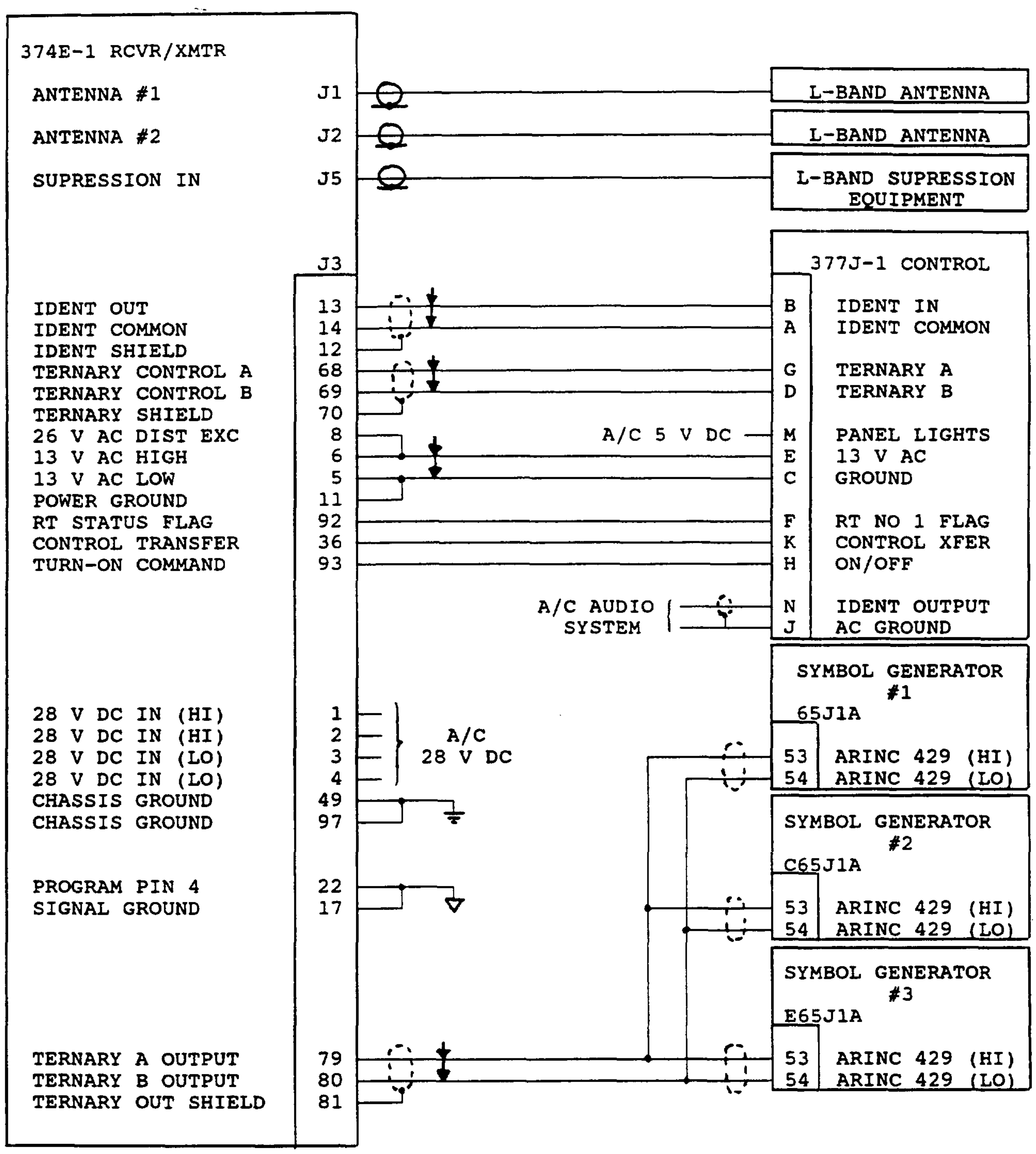
1.5 System Schematic

See Figure M-1.

1.6 Electrical Interconnect Information

For TACAN receiver/transmitter, control, and antenna electrical interconnect information refer to Collins TCN-500 Advanced Digital TACAN Installation (523-0774762). The only Honeywell SPZ-8000 interconnect addition is the TACAN R/T to each of the three Symbol Generators on the ARINC 429 bus. No additional wiring is required for the Display Controller.

Interconnect Information
Table 501 (cont)



TACAN System Schematic
Figure M-1

Interconnect Information
Table 501 (cont)

SYMBOL GENERATOR NO. 1

IOB P	Function	Connector Pin	Connects To
(B)	ARINC 429 (HI)	65J1A-53 (22)	TACAN J3-79
(B)	ARINC 429 (LO)	65J1A-54 (22)	TACAN J3-80

SYMBOL GENERATOR NO. 2

IOB P	Function	Connector Pin	Connects To
(B)	ARINC 429 (HI)	C65J1A-53 (22)	TACAN J3-79
(B)	ARINC 429 (LO)	C65J1A-54 (22)	TACAN J3-80

SYMBOL GENERATOR NO. 3

IOB P	Function	Connector Pin	Connects To
(B)	ARINC 429 (HI)	E65J1A-53 (22)	TACAN J3-79
(B)	ARINC 429 (LO)	E65J1A-54 (22)	TACAN J3-80

Interconnect Information
Table 501 (cont)

SECTION 7
SYSTEM SCHEMATICS

Information normally contained in overall system schematics has been incorporated in the mode flow diagrams (Section 3) and the interconnects (Section 6); therefore, this section has been omitted.

SECTION 8
REMOVAL/REINSTALLATION AND ADJUSTMENT

1. General

This section provides instructions for removing and reinstalling, and adjusting each unit of the SPZ-8000 Automatic Flight Control System that has been previously installed in the System. Should any INSTALLATION CRITICAL cases arise with the reinstallation of any unit, be sure to comply 100 percent with the instructions.

CAUTION: TO PREVENT COMPONENT DAMAGE, TURN AIRCRAFT POWER OFF WHEN REMOVING OR INSTALLING COMPONENTS.

NOTE: No adjustment is required unless stated otherwise.

After reinstallation of any unit, check unit operation in accordance with applicable GROUND CHECK procedure.

2. Equipment and Materials

A. Equipment

No special equipment or materials other than those commonly used in shop are required for reinstalling units in existing trays and clamps and adjusting the System.

B. Materials

WARNING: BEFORE YOU USE A MATERIAL, YOU MUST KNOW THE HAZARD CODE AND GET THE NECESSARY PROTECTION. A HAZARD CODE IDENTIFIES THREE EFFECTS OF A MATERIAL ON A PERSON: HEALTH, FIRE, AND REACTIVITY. THE HIGHER THE NUMBER, THE MORE DANGEROUS THE HAZARD. BE CAREFUL WITH ANY MATERIAL THAT HAS A HAZARD CODE WITH A 2, 3, OR 4. REFER TO ATTACHMENT H FOR AN EXPLANATION OF THE HAZARD CODE.

NOTE: You can use equivalent alternatives for the materials in this list.

Adhesive-sealant, general purpose, RTV, silicone (MIL-A-46106, Type 1 - soft spreadable thixotropic paste, group 1) - SILASTIC RTV 732 (black or white), Dow Corning Corp, Midland, MI (HAZARD CODE 110D)

Sealing compound, temperature-resistant, high-adhesion, two component, polysulfide synthetic rubber (MIL-S-8802, Type 1 - dichromate cured sealing materials, Class B1/2 - spreadable) - PR-1422 (base and accelerator), Products Research and Chemical Corp, Coating and Sealants Div, Glendale, CA (HAZARD CODE 311C)

3. Procedure for DU-880 Display Unit

A. Remove Display Unit

(1) Loosen screw on panel at the bottom center of unit.

(2) Slowly pull forward on top and bottom of bezel to separate unit and tray connector, and slide unit out of tray.

B. Reinstall Display Unit

(1) Slide unit into mounting tray ensuring that unit guide pins are lined up.

(2) Carefully apply firm pressure until unit connector is mated with tray connector.

(3) Tighten screw on panel.

C. PFD Inclinometer Level Adjustment

(1) Loosen two screws on inclinometer.

(2) Adjust inclinometer until level and tighten screws.

D. CRT Filter Cleaning

(1) Inspect outside surface for foreign material and variations in optical properties.

(2) Particles of grit, dirt, or sand are to be removed carefully with high-pressure dry air or a soft camel-hair brush.

(3) Alcohol Cleaning

(a) Dampen a clean portion of a blue (or cotton) wipe with alcohol.

(b) Carefully rub unclean portion of filter with damp wipe.

(c) Repeat step 3.D.(3)(b) until filter is clean.

(d) Alcohol sometimes leaves a light film residue on the filter; if this is found, clean with a lightly ammoniated cleaner.

(4) Ammoniated Cleaner

(a) Dampen a clean portion of blue (or cotton) wipe with ammoniated cleaner.

(b) Carefully rub filmy portion of filter with damp wipe.

(c) Wipe off residue with clean dry portion of blue (or cotton) wipe.

(d) Repeat steps 3.D.(4)(b) and (c) until clean.

4. Procedure for WC-810/874 Weather Radar Controller, GP-820 Flight Guidance Controller, PC-880 Turn Pitch Controller, DC-884 Display Controller, CD-810 Control Display Unit, DL-800/900 Data Loader, DP-884 Dimmer Panel, LU-850 Lightning Sensor Controller, Mode Select Unit, Navigation Display Unit, or Inertial System Display Unit

A. Remove Controllers, Display or Select Unit, Data Loader, or Dimmer Panel

(1) Loosen unit screw (DZUS) fasteners.

(2) Slide unit out of panel and disconnect cable connector.

B. Reinstall Controllers, Display or Select Unit, Data Loader, or Dimmer Panel

(1) Mate unit connector with cable connector and slide unit into panel.

(2) Tighten unit screw (DZUS) fasteners.

5. Procedure for AZ-810 Digital Air Data Computer, FZ-820 Flight Guidance Computer, NZ-920 Navigation Computer, SG-884 Symbol Generator, FC-880 Fault Warning Computer, DA-884 Data Acquisition Unit, or PZ-800 Performance Computer, LP-850 Lighting Sensor Processor, ML-850 MLS Receiver, OZ-800 receiver Processor Unit, Inertial Reference Unit, or RT-910 TCAS Computer

A. Remove Computers, Symbol Generator, or Data Acquisition Unit

(1) For air data computers, disconnect pitot and static lines.

(2) Loosen unit holddown knob.

(3) Slowly pull forward on unit handle to separate unit and tray connectors and slide unit out of tray.

B. Reinstall Computers, Symbol Generators, or Data Acquisition Unit

(1) Slide unit into mounting tray.

CAUTION: DO NOT FORCE FIT. IF MATING IS DIFFICULT, REMOVE THE UNIT AND CHECK FOR CONNECTOR PINS THAT MAY BE BENT OR OUT OF ALIGNMENT. ALSO CHECK THE ALIGNMENT OF THE RECEPTACLE IN THE MOUNTING TRAY.

(2) Carefully apply firm pressure until unit connectors are mated with connector receptacles on mounting tray.

(3) Tighten unit holddown knob, ensuring proper engagement is made.

(4) For air data computers, connect pitot and static lines and perform pitot/static leak check.

(5) For LP-850 Lightning Sensor Processors, adjust switches S1 through S4 on front of unit to settings specified on the correction factor label located on the rack or near the LP-850.

6. Procedure for RT-300 Radio Altimeter Receiver Transmitter

A. Remove Radio Altimeter Receiver Transmitter

(1) Disconnect cable and antenna connectors.

(2) Loosen unit holddown knobs and remove unit.

B. Reinstall Radio Altimeter Receiver Transmitter

(1) Slide unit into mounting tray and secure with unit holddown assembly.

(2) Mate unit connectors with applicable antenna and cable connectors.

C. Radio Altimeter Display Zero Ground Adjustment

The zero height adjustment is accomplished with the unit operating and all electrical connections (including antennas) made. Perform the following steps:

CAUTION: UNDER NO CIRCUMSTANCES SHALL POWER BE TURNED ON UNLESS ANTENNA OR SUITABLE LOAD (50-OHM TERMINATION) IS CONNECTED TO TRANSMIT CONNECTOR. BOTH THE TRANSMIT AND RECEIVE ANTENNAS MUST BE CONNECTED TO CONDUCT THE ZERO HEIGHT ADJUSTMENT.

(1) Apply system power.

(2) The RAD ALT display on the PFD will show a value near zero.

(3) After a 2-minute stabilization period, the zero height adjust may then be used to zero the RAD ALT display for this installation.

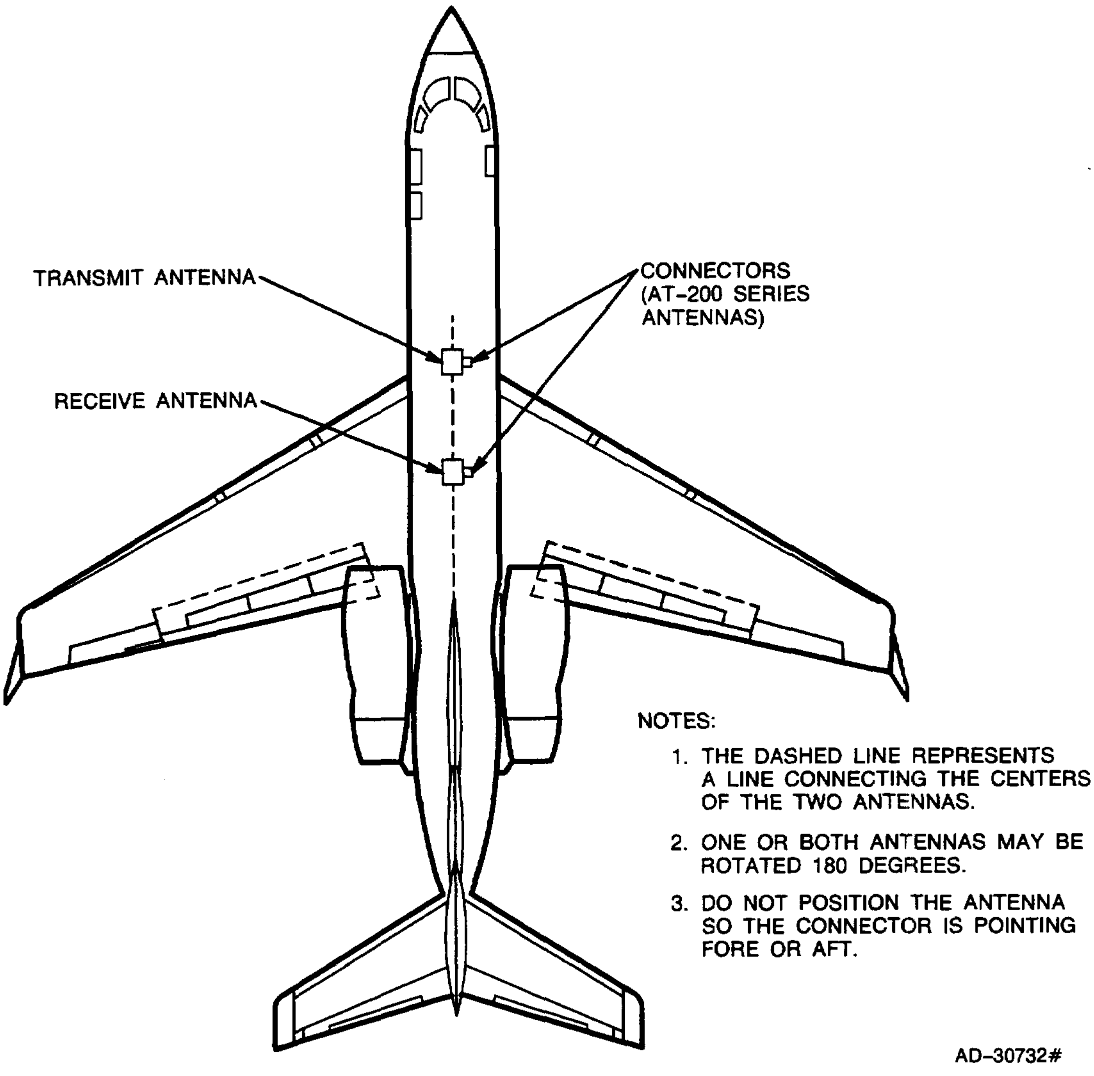
7. Procedure for AT-222 Radio Altimeter Antennas

CAUTION: DO NOT PAINT THE FIBERGLASS RADOME (ANTENNA FRONT FACE).

A. Clean the mounting surfaces well with emery cloth to provide a good ground between the aircraft and the antennas. A conductive coating should be used for corrosion prevention. A suitable commercial product is Alodine 1201 which can be brush applied.

B. The antennas must be mounted on a conductive surface for proper operation. The surface area should be smooth and free from discontinuities between the transmit and receive antennas.

C. Connectors of antennas should be oriented as shown in Figure 701.



Correct Orientation of AT-222 Antennas
Figure 701

8. Procedure for WR-800 Weather Radar Receiver Transmitter

A. Remove Receiver Transmitter

(1) Release RT quick-disconnect, then remove waveguide-run flange from RT waveguide.

(2) Disconnect aircraft mating connector P201 and P202 if used.

(3) Place protective covers over RT and aircraft waveguide flanges.

(4) Remove safety wire, loosen hold-down clamps, and pull RT out of mounting tray.

B. Reinstall Receiver Transmitter

CAUTION: BEFORE INSTALLING RT, CHECK THAT STC SWITCH ON FRONT PANEL IS SET AT 24 TO CORRESPOND WITH THE SIZE OF ANTENNA RADIATOR INSTALLED.

(1) Slide RT into mounting tray until it is hooked under curved hold-down end of tray. Position, hand-tighten, and safety-wire hold-down clamps in front.

(2) Remove protective cover from RT waveguide flange. Check flange for dents or foreign matter. Connect waveguide run by means of quick-disconnect clamp (MI585214). Connect aircraft interconnection wiring to RT connector J201 and J202 if used.

9. Procedure for WA-800 Weather Radar Antenna and FP-900 24-Inch Radiator Plate

A. Remove Antenna

(1) Release antenna quick-disconnect; then remove waveguide-run flange from antenna waveguide. Carefully remove pressure or O-ring seal if waveguide is pressurized.

(2) Disconnect aircraft connector P301 from antenna.

(3) Place protective covers over antenna and aircraft mating waveguide flanges.

(4) Remove and retain four socket-head cap screws and associated washers holding flat-plate phased-array radiator to antenna (support radiator while these screws are being removed), then remove radiator.

(5) Place protective covers over antenna and radiator waveguide mating flanges.

(6) Support antenna pedestal, and remove and retain hardware holding pedestal to aircraft bulkhead. Remove antenna pedestal.

9. B. Reinstall Antenna

(1) Align antenna mounting holes with four holes in aircraft bulkhead, then fasten antenna in place with appropriate hardware.

(2) Remove protective covers from antenna and aircraft mating waveguide flanges. Check flanges for dents or foreign matter. Connect waveguide to antenna by means of quick-disconnect clamp (if waveguide is pressurized, install pressure window and RF gasket between waveguide and antenna). Connect aircraft interconnection wiring to antenna connector J301.

(3) Remove protective cover from radiator waveguide flange. Check flange for dents or foreign matter.

(4) Position flat-plate radiator so mounting holes are aligned with holes in antenna waveguide flange and legend on radiator reads right-side up (logo should be below legend), then fasten radiator to antenna using four socket-head cap screws and associated flat and lockwashers furnished.

(5) Set SCAN ON/OFF switch to ON.

C. Antenna Stabilization Checks

This procedure provides a method for adjusting the sensitivity of the radar stabilization amplifiers (in the receiver transmitter) to correspond to the sensitivity of the vertical reference in the individual aircraft. This procedure should be accomplished for each new installation, whenever stabilization problems are suspected, or after the stabilization system has been serviced.

NOTE: As received from the factory, the antenna synchros and resolvers are correctly aligned. For other than new installations, it is necessary for correct alignment of these items to be verified in accordance with applicable maintenance manual procedures.

(1) Preliminary Checks

(a) Verify that mounting surface of antenna is aligned with roll and pitch axes of aircraft ±1/4 degree.

(b) Before applying power to radar system, make sure that MOD switch on RT front panel is slid to the right (OFF) so as to disable modulator and prevent transmitter from transmitting.

(c) Verify that SCAN switch on antenna pedestal is in OFF position. Turn system on and press SB/T pushbutton. After the 50-second time delay, verify noise band is broken up to indicate that transmitter is not transmitting.

(d) Press WX pushbutton, and verify that MOD switch is off by the WAIT staying on the display all the time. Ensure that STAB switch on RT front panel is slid to right (OFF) to deactivate stabilization circuit. Press SB/T pushbutton and test pattern will be displayed.

9. C. (1) (e) By reference to mounting surface of aircraft vertical reference, determine and record pitch angle of aircraft as it rests on ramp.

(2) Antenna Elevation

(a) Manually position flat-plate phased-array radiator in dead-ahead position as indicated by antenna azimuth scale.

(b) Loosen, or remove, as necessary, mounting hardware of aircraft vertical reference. Lift it from mounting surface and level it.

(c) In test mode, set TILT control on indicator at 0 degree (as shown on indicator display).

(d) With spirit level, check that antenna pitch equals that recorded in step 9.C.(1)(e) ±1.0 degree.

Excessive error observed in step 9.C.(2)(d) may result from defective:

- Aircraft vertical reference; output should be 0 volt.
- Indicator: Degree tilt calibration of TILT control can be configured at antenna elevation synchro B304: ac voltage measured between S2 and S3 should equal voltage between S2 and S1.
- Antenna: Elevation synchro B304 may require alignment.
- Receiver transmitter stabilization circuitry.
- Antenna installation at bulkhead.

(e) Alternately turn TILT control to both 15 degrees up and 15 degrees down positions, and verify, by observing spirit level, that flat-plate radiator responds in same direction in an amount equal to aircraft pitch as determined by preceding step 9.C.(2)(d) 15 ± 1.0 degrees.

(f) With flat-plate radiator facing dead-ahead, adjust TILT control until spirit level is centered (0 degree elevation). Disregard TILT control setting and aircraft pitch angle. Slide STAB switch on RT front panel to the left (ON).

(g) Press SB/T pushbutton (STBY mode) and alternately displace aircraft vertical reference in pitch axis 20 degrees up and 20 degrees down. Verify that flat-plate radiator elevates 10.3 ± 0.5 degrees in opposite direction.

(h) Press SB/T pushbutton (test mode) and verify that antenna slowly oscillates between 10.3 degrees and 20 degrees; e.g., if pitch reference is 20 degrees up, the antenna would move from 10.3 degrees down to 20 degrees down.

9. C. (3) Roll Compensation

(a) In test mode, level aircraft vertical reference as described in step 9.C.(2)(b).

(b) Refer to antenna azimuth scale and manually position flat-plate radiator facing dead-ahead. Slide STAB switch on the front of RT to the right (OFF).

(c) Adjust TILT control until flat-plate radiator is perpendicular to earth as measured with spirit level. Disregard TILT control setting when making this adjustment. Slide STAB switch on RT front panel to the left (ON). Press SB/T pushbutton to get STBY mode.

(d) Position aircraft vertical reference in roll axis 20 degrees left bank keeping it at 0 degree on pitch axis, and verify that antenna moves up. If it moves down instead, press SB/T pushbutton twice and then verify antenna moves up 17.5 ± 1.0 degrees.

NOTE: Each time the system is switched from TEST to STBY the antenna is electrically changing from 60 degrees left to 60 degrees right, but the first time it is turned to STBY the side is not known. That is the reason it may have to be switched from STBY to TEST to STBY again.

(e) Press SB/T pushbutton twice (STBY mode), and then verify antenna moves down 17.5 ± 1 degrees.

(f) Press SB/T pushbutton (test mode) and verify antenna slowly oscillates between 17.5 degrees up and 17.5 degrees down.

(g) Turn antenna SCAN switch ON (on antenna) and verify antenna moves up 17.5 degrees on the left side and down 17.5 degrees on the right side.

(h) Turn system OFF; verify SCAN switch on antenna pedestal in ON position; and slide MOD switch on RT to the left (ON) to activate modulator.

(i) Restore vertical reference installation.

9. D. Pressurization Checks

For those installations in which the waveguide is to be pressurized, conduct the following pressurization test after connecting the waveguide between the RT and the antenna.

If a flow meter is not available for testing, the change in pressure with respect to time may be used for the same purpose.

(1) Apply 10 lb/in^2 (0, 7 kg/cm^2) through waveguide bleeder.

(2) Arrest air flow from pressure source into waveguide.

(3) Observe time in seconds required for pressurization in waveguide to drop to 5 lb/in^2 (0, 35 kg/cm^2).

The time it will take for the pressure to drop to 5 lb/in^2 (0, 35 kg/cm^2) varies linearly with time versus waveguide length. For each foot (30, 5 cm) of waveguide, the minimum allowable time is 5 seconds. Thus, for example, for 3 feet (91 cm) of waveguide, the minimum allowable time is 15 seconds.

10. Procedure for WU-870 Antenna and Receiver Transmitter Unit

A. Remove Unit

WARNINGS: 1. POSITION AIRCRAFT RADAR SYSTEM TO FACE AWAY FROM BUILDINGS, LARGE METAL STRUCTURES, OR OTHER AIRCRAFT IN CLOSE PROXIMITY BEFORE YOU TURN IT ON. THEY ARE LIKELY TO RETURN LARGE AMOUNTS OF REFLECTED ENERGY AND CAUSE DAMAGE TO THE SYSTEM.

2. DO NOT OPERATE RADAR WITHIN 50 FEET OF OTHER AIRCRAFT OR OBJECTS, OR CLOSER THAN 100 FEET TO REFUELING OPERATIONS.

3. NEVER LOOK DIRECTLY INTO THE ANTENNA (WHILE IT IS OPERATING) FOR PROLONGED PERIODS OF TIME AT A CLOSE RANGE. SERIOUS EYE TISSUE DAMAGE CAN RESULT DUE TO THE HEATING EFFECT OF RADAR ENERGY.

(1) Remove electrical power from aircraft.

(2) Gain access to nose avionics rack (under radome).

(3) Remove electrical connector.

(4) Remove radar unit.

10. B. Install Unit

(1) Install unit.

(2) Connect electrical connector.

(3) Make sure SCAN and MOD switches are turned on.

(4) Inspect area for foreign objects.

(5) Close radome.

(6) Perform PRIMUS® 870 Weather Radar System antenna stabilization and operational checkout.

C. Antenna Stabilization Checks

NOTE: Pitch and roll gain adjustments only affect the analog stabilization function. ARINC 429 digital stabilization is preset and cannot be adjusted. However, it can be checked for accuracy.

(1) Preliminary Checks

(a) Install waveguide extension and dummy load on the unit.

(b) Using inclinometer, verify that fan mounting surfaces are aligned to the pitch and roll axis of the aircraft within ±1/4 degree. Record aircraft level points.

(c) Make sure that SCAN and XMTR switches on the unit housing are in the OFF position. Adjust antenna azimuth to 0°. Make sure autotilt is off.

(d) Select map mode on both pilot and copilot display controllers. Make sure that copilot WX controller is OFF and that pilot controller is selected to STANDBY and the GAIN to preset (DEPRESS). On power-up, verify a flashing WAIT (amber) mnemonic is displayed on both NAV displays for approximately 45 seconds, then change to mnemonic STBY (green).

(e) Using inclinometer, adjust tilt control for 0° antenna pitch on pilot controller. Make sure that 0° on controller corresponds to 0 ± 1/4° antenna pitch measured on waveguide upper surface.

NOTE: Repeat steps 10.C.(1)(d) and (e) for copilot's controller.

CAUTION: DO NOT OPERATE IRS WITHOUT COOLING FOR LONG PERIODS OF TIME (1 HOUR MAX).

10. C. (1) (f) Select IRS No. 2 on IRS breakout box and tilt table.

(g) Select pilot's controller to STBY and copilot's controller to OFF.

(2) Antenna Elevation

(a) Tilt IRS No. 2 to 25° noseup and 0° roll.

(b) Make sure antenna tilts down 25 ± 1°.

(3) Antenna Roll

(a) Select VARIABLE GAIN (PULL).

(b) Tilt IRS No. 2 to 0° pitch and 25° right wing down.

(c) Make sure antenna tilts up 25 ± 1°.

(d) Conduct roll offset adjustment if step 10.C.(3)(c) is out of tolerance.

(4) Roll Offset Adjustment

NOTE: This is an in-flight adjustment. If two controllers are installed, one must be off.

(a) At an altitude of 10,000 feet above ground level or greater, and in the 100 NM range, adjust antenna tilt down until a fairly solid band of ground clutter is visible.

(b) Select variable gain, WX, REACT OFF. Observe VAR on display.

(c) Select REACT ON-OFF-ON-OFF within 3 seconds. VAR should not be displayed. This puts the unit in roll compensation mode. Press REACT pushbutton once more and verify VAR is not displayed. If it is, repeat this step.

(d) Adjust manual GAIN control on controller until the ground clutter display is symmetrical.

(e) Do not touch manual GAIN control once display is adjusted properly.

(f) Select REACT ON-OFF-ON-OFF within four seconds to exit the roll compensation mode. When VAR is displayed again, the roll compensation mode has been exited. Set variable or preset GAIN as desired.

Note that this compensation is now stored in nonvolatile memory in the RT and will not be erased if power is removed from the system.

11. Procedure for SM-600 Dual Servo, TM-260 Dual Trim Servo and Brackets, and SM-810 Servo

For removal and reinstallation of the servos and bracket, refer to instructions in the Gulfstream IV Aircraft Maintenance Manual.

12. Procedure for CM-850 MLS Control/Display Unit

A. Remove Control/Display Unit

(1) Using a 3/32 Allen Wrench, loosen unit mounting clamps.

(2) Slide unit out of panel and disconnect aircraft cable connector.

B. Reinstall Control/Display Unit

(1) Mate unit connector with aircraft cable connector and slide unit into panel.

(2) Using a 3/32 Allen Wrench, tighten unit mounting clamps.

13. Procedure for Global Positioning System Sensor Unit (GPSSU)

A. Remove GPSSU

(1) Disconnect aircraft cable and antenna connectors.

(2) Remove four screws and washers securing GPSSU to airframe.

B. Reinstall GPSSU

(1) Secure the GPSSU to the airframe using four 10-32 screws, lockwashers, and flat washers.

(2) Mate unit connectors with applicable antenna and cable connectors.

14. Procedure for AT-910 TCAS Directional Antenna

NOTE: There is at least one AT-910 required for TCAS, mounted on top of the fuselage. A second (optional) RT-910 may be mounted on the bottom of the fuselage. These procedures apply to both antennas.

A. Remove TCAS Directional Antenna

(1) Remove and save eight non-torx drive screws securing antenna to aircraft.

(2) Verify that the four coaxial cables have the appropriate color coding rings in place. If they have been damaged or removed, tag the cables as appropriate.

(3) Remove antenna.

14. B. Disassemble Antenna and Mounting Plate

(1) Remove and save attaching hardware and separate antenna dish and adapter plate.

(2) Clean antenna dish and adapter plate to remove any sealant and foreign material.

C. Assemble Antenna and Mounting Plate

(1) Mate antenna dish with adapter plate, making sure that all holes are aligned.

(2) Using a grease pencil, make an alignment mark on antenna dish and adapter plate.

(3) Separate antenna dish and adapter plate.

(4) Apply a continuous bead of sealing compound PR1422 to outer recess in adapter plate.

(5) Place adapter plate over antenna dish to match alignment marks made earlier in paragraph (b) above.

(6) Press adapter plate onto antenna dish.

(7) Attach adapter plate to antenna dish, using supplied attaching hardware. Leave airframe mounting holes empty.

D. Reinstall TCAS Directional Antenna

(1) Place new O-ring, Honeywell Part No. 40000171-240, in O-ring groove of antenna assembly.

(2) Position antenna assembly to its location on fuselage and align mounting holes (note the nonsymmetrical hole pattern).

(3) Note orientation of antenna with respect to airframe. Do not attach antenna to airframe at this time.

(4) Carefully inspect all mating connectors for the presence of foreign matter. Clean as necessary.

(5) Connect four coaxial cables to antenna. Note color bands on cables and mating connectors: yellow to J1, black to J2, blue to J3, red to J4.

(6) Align antenna mounting holes with holes in aircraft (note the nonsymmetrical hole pattern). Install washer on non-torx drive screw, apply sealant to threads, and install through antenna mounting holes into airframe. Tighten to 18 inch-pounds maximum torque.

15. Procedure for AT-800/803 Antenna Coupler Unit (ACU)

A. Remove Antenna Coupler Unit

(1) Remove and save screws securing antenna to aircraft.

(2) Break seal between ACU/gasket seam or antenna/shim seam and remove ACU.

(3) Disconnect cable connector.

B. Reinstall Antenna Coupler Unit

(1) Install new gasket, if applicable.

(2) Connect cable connector.

(3) Position ACU over gasket.

(4) Apply sealing compound PR1422 or equivalent to ACU/gasket seam. If gasket is not used, position ACU and apply Silastic, RTV732, around the circumference of the ACU and the mating surface seam.

(5) Install nonmagnetic mounting screws through antenna, shim, and through the aircraft skin into captive nutplates. Tighten the screws to a maximum of 10 inch-pounds torque or 5 inch-pounds above platenut breakaway torque.

16. Procedure for AT-850 Antenna

A. Remove AT-850 Antenna

(1) Remove and save three screws securing antenna to aircraft.

(2) Break seal between antenna/gasket seam and remove antenna.

(3) Disconnect cable connector.

B. Reinstall AT-850 Antenna

(1) Connect cable connector.

(2) Install and align antenna and secure with three No. 10 nonmagnetic stainless screws removed in Step 16.A.(1).

(3) Tighten screws to a maximum of 10 inch-pounds torque or 5 inch-pounds above platenut breakaway torque.

(4) Apply sealing compound PR1422 between antenna and gasket seam.

17. Procedure for AT-855 Antenna and AT-801 Antenna Coupler Unit

A. Remove antenna

(1) Remove and save screws securing antenna to aircraft.

(2) Disconnect cable connector and remove antenna.

B. Reinstall antenna

(1) Connect cable connector.

(2) Install antenna and secure with No. 10 nonmagnetic stainless screws removed in Step 17.A.(1).

18. Procedure for Updating the Navigation Database

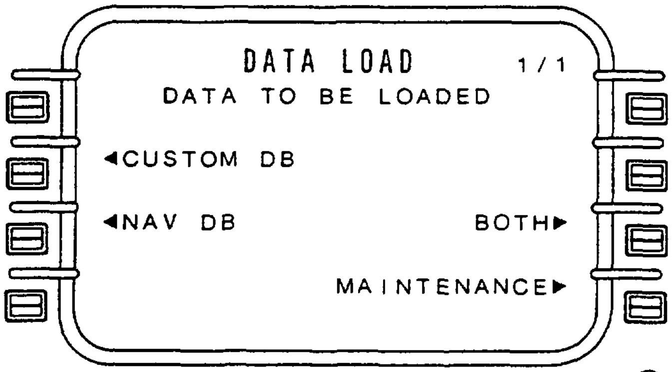
Updating the NAV database is accomplished using the DL-800/900 Data Loader. First if the DL-800/900 is not installed in the aircraft, connect the portable data loader umbilical cable to the aircraft connector. Apply power to the data loader using the appropriate aircraft circuit breaker and press the data loader power switch. The power LED will illuminate and after the power-up BITE sequence has been completed, the data LED will illuminate. Select LEFT or RIGHT to load the respective FMS. Insert the database disk to be loaded into the slot on the loader. All other steps are accomplished on the CDU.

The DATA LOAD page is accessed through the second page of the NAV index (NAV key) or from the IDENT and MAINTENANCE pages. Once on this page (Figure 702), press the NAV DB line select key. This will change the display to Figure 703, where the prompt to transfer from the loader is located.

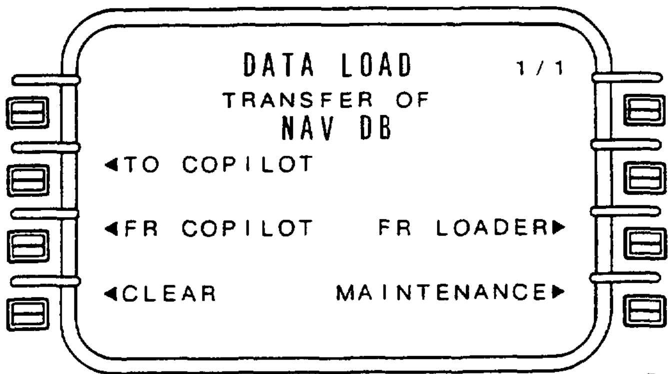
NOTE: The data loader must have power applied and the selector switch must be in the appropriate position for the FR LOADER prompt to appear on the CDU.

Pressing the FR LOADER line select key will change the display to Figure 704. Press the key next to the YES PROMPT TO BEGIN LOADING. The CDU will indicate the progress of the transfer as shown in Figure 705. When the counter reaches 100%, the FMS will verify the successful transfer by validating the CRC (cyclic redundancy check) as shown in Figure 706. When the CRC is validated, the screen will blank momentarily while the FMS executes its BITE sequence using the new database. When this is completed, the CDU will return to the NAV IDENT page and the message DB TRANSFER COMPLETE will be in the scratchpad line.

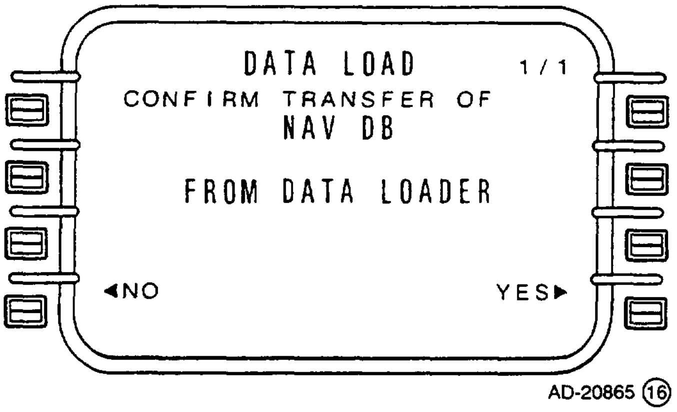
In dual installation, this procedure must be performed on each side.



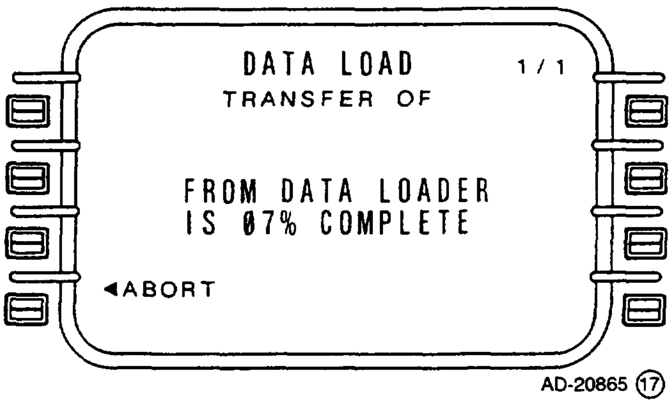
Data to be Loaded Display
Figure 702



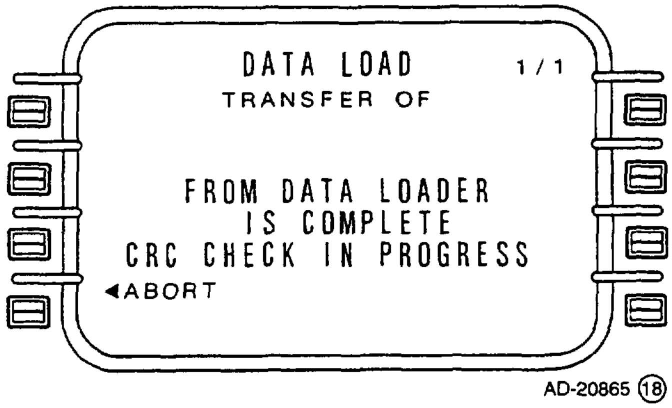
Transfer of NAV Database Display
Figure 703



Confirm Transfer of NAV Database Display
Figure 704



Percent Complete of Transfer Display
Figure 705



Completion of Transfer Display
Figure 706

SECTION 9
SHIPPING, HANDLING, AND STORAGE

Refer to Manual, Sperry Pub. No. 09-1100-01, for detailed procedures for preparing all system components for storage or shipment.